# THE EFFECT OF AN EXPERIMENTAL APPROACH ON THE DEVELOPMENT OF SPEECH-LANGUAGE THERAPY STUDENTS' VERBAL REFLECTIVE PRACTICE SKILLS IN A GROUP SETTING

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A thesis

submitted in partial fulfilment

of the requirements for the Degree

of

Master of Science in Speech and Language Sciences

in

the University of Canterbury

by

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University of Canterbury

2016

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**Acknowledgements**

The author wishes to express sincere appreciation to Gina Tillard, Kate Cook and Associate Professor Megan McAuliffe for the opportunity to undertake this study, and their assistance and continued support in the preparation of this manuscript. Gina, thank you for your time and patience, and your listening ear regardless of the topic; Kate, for pushing me to continually improve and expand, never accepting sub-par; and Megan, for your continued support from near and far. Thank you to the students and CEs involved who made this study possible. In addition, thank you to Daniel Gerhard for statistical consulting and assistance with data analysis. Finally, a special thanks to Hasan Cheema for going above and beyond your official title, giving additional support with statistical components, consistent encouragement, and support throughout the process.

## Abstract

The aim of the current study was to investigate the development of speech-language therapy students' verbal reflective practice skills within group settings. Student and clinical educator perceptions of reflective practice were also documented. Participants were students in the third year of the undergraduate Bachelor of Speech and Language Pathology programme (n = 27), and clinical educators (n = 6). A two-condition, non-randomised, pre-test post-test design was employed with six groups (three in a standard practice condition and three in an experimental practice condition). Participants took part in weekly reflective practice groups over a period of six weeks, in which discussion centred on students' clinical experiences. At two time points, pre- and post-intervention, discussions were transcribed and coded. Additionally, both students and clinical educators completed a questionnaire designed to examine perceptions of reflective practice. Statistical analysis of degree of change across the pre- and post- intervention time points was undertaken, including comparisons between the standard and experimental practice conditions.

There was no difference in the development of students' verbal reflective practice skills either across time or between groups. However, pre- and post-intervention comparisons showed a significant change in student perceptions of reflective practice both across time and between conditions. Clinical educators exhibited statistically significant enhancements in their perceptions of reflective practice groups within the standard practice condition; however this was not the case in the experimental practice group. No significant differences in perceptions of clinical educators were detected between conditions. The lack of development of reflective practice skills detected over time was an unexpected finding, as previous literature has documented that reflective practice skills do develop over time. Limitations of the current study were the small sample size and use of non-validated questionnaires to assess perceptions of reflective practice. Implications for clinical practice are discussed.

# 1. Introduction

## 1.1 Background

Reflective practice has become increasingly popular in the area of clinical education. Many professions such as medicine (Mamede & Schmidt, 2004), nursing (Dubé & Ducharme, 2014; Johns, 1995; Teekman, 2000), occupational therapy (Kinsella, 2001; Wainwright, Shepard, Harman & Stephens, 2010), physiotherapy (Clouder, 2000; Dunfee, Rindflesch, Driscoll, Hollman & Plack, 2008; Plack, Driscoll, Blissett, McKenna & Plack, 2005) and speech-language therapy (Hill, Davidson & Theodoros, 2012) have reported on the use of reflective practice in education of students and practitioners. Reflective practice may occur in written or verbal form. Written forms may include the use of journals (Chabon & Lee-Wilkerson, 2006) and reflective essays or summaries (Schaub-de Jong, Cohen-Schotanus, Dekker & Verkerk, 2009), while verbal forms may include discussions with peers (Baxter & Gray, 2001), mentors (Higgs & McAllister, 2007), and supervisors (Geller & Foley, 2009). Some argue that reflective practice should be structured in order to guide the process (Johns, 2002) while others suggest that structure inhibits students' creativity and freedom to express their own thinking (Heath, 1998).

As a part of the clinical education process, it is standard practice for speech-language therapy students at the University of Canterbury to engage in reflective practice. This is completed on a regular basis through written reflections, journals, and online-discussions, as well as verbal discussions with supervisors, peers or wider groups. While much is known about the development and assessment of written reflective practice (e.g., Hill et al., 2012; Cook, Tillard & Wyles, 2014), minimal research has examined the assessment of verbal reflective practice skills within group settings in clinical education, particularly for speech-language therapy. This project was undertaken to assess the development of speech-language

therapy student verbal reflective practice skills over time within group discussion. The use of structure through activities and prompts was examined for its influence on student reflective practice skills.

## 1.2 Clinical education in tertiary education

Clinical education is a continually expanding and developing field within professions such as medicine, nursing, audiology, social work, physiotherapy, occupational therapy, and speech-language therapy. Clinical education is defined as "a conversation between professionals aimed at promoting learning, reflective practice and improving patient safety and the quality of patient care" (Halpern & McKimm, 2009). Within the broader practice of clinical education is clinical supervision, a necessary component of the educational process. Clinical supervision may be defined in a number of ways (e.g., see Bernard & Goodyear, 2009; Milne, 2007 for others); however, all definitions contain key concepts such as the relationship between professionals, the promotion of learning and development, the focus on the practice context, and the aim to improve patient or client population. The terms clinical education and clinical supervision are used interchangeably in the field of speech-language therapy (American Speech and Hearing Association, 2008). For the purposes of the current thesis, the term 'clinical education' will be used, referring to the process that students undergo in which they receive guidance and education from more experience clinicians in order to promote learning and development of clinical skills.

### *1.2.1 Clinical education in speech-language therapy*

Clinical education is a vital part of students' academic and professional development in the field of speech-language therapy (McAllister & Lincoln, 2004). Students experience a variety of clinical placements across the course of their degree, and journey through the stages of professional development from novice to entry-level clinician (McAllister, Lincoln,

Ferguson & McAllister, 2013). Effective clinical education is essential to this process. The American Speech and Hearing Association (ASHA) (2008) state that clinical education is an essential and distinct area within speech-language therapy, to educate students and continue the professional growth of speech-language therapists. It has been suggested that there are four generic goals of clinical education (McAllister and Lincoln, 2004). The four goals are: "continuous development of clinical knowledge and skills, development of knowledge and skills in education, development of personal and interpersonal knowledge and skills, and development of cognitive skills," (p. 2). To achieve these goals, clinical education can involve a variety of activities that are specific to the practice setting in which it is taking place. The needs and expectations of the students and clinical educators, and the constraints of the practice setting should all be taken into account (ASHA, 2008). Hence, methods and activities of clinical education may vary to meet the needs of the students and constraints of the practice setting. In summary, clinical education is an important component in the field of speech-language therapy and may take various forms to meet the needs of the students, supervisors and practice context. One activity commonly found in the area of clinical education is that of reflective practice (e.g., Kember et al., 2000; Niemi, 1997; Wong, Kember, Chung and Yan, 1995).

### 1.3 Reflective practice

Reflective practice involves 'learning through and from experience, new insights, examining assumptions, being self-aware, critically evaluating, and life-long learning,' (Finlay, 2008). Reflective practice has been the subject of discussion among many health care professions, including nursing (Dubé & Ducharme, 2014; Johns, 1995; Teekman, 2000), medicine (Mamede & Schmidt, 2004), occupational therapy (Kinsella, 2001), and physiotherapy (Clouder, 2000; Dunfee et al., 2008), and has been recognised as a valuable tool to develop clinic decision making in each of these professions. In the field of speech-

language therapy, McAllister and Lincoln (2004) have defined reflective practice as "the means by which learners can make sense of and integrate new learning into existing knowledge" (p. 125). The term "reflective practice" is used in the current thesis, acknowledging that other similar terms exist, such as "critically reflective dialogues" (de Groot, Endedijk, Jaarsma, van Beukelen & Simons, 2013), and "critical reflection" (Brookfield, 1995). Reflective practice is an important aspect of clinical education that may serve to meet the goals of clinical education, incorporate the contextual aspects of an individual's experience, and develop reasoning skills and professional autonomy (Kinsella, Caty, Ng & Jenkins, 2012; McVey & Jones, 2012; Wainwright et al., 2010).

Within clinical education, students are encouraged to regularly engage in reflective practice in which they reflect on clinical experiences. In this context, the purpose of reflective practice is to encourage incorporation of contextual elements and personal beliefs and values into professional decision making (Hill et al., 2012; Somerville & Keeling, 2004). Reflective practice is also intended to assist students in synthesising classroom knowledge with their clinical practice (Dunfee et al., 2008). It is proposed that reflective practice is not merely re-visiting an experience, or debriefing how an experience felt, instead it should be done with the intent to learn from the experience, and to take new understanding and perspective into future situations **(**Dewey, 1933). It is clear that across disciplines the process of reflective practice is seen as a vital component of developing clinical knowledge and skills.

### 1.4 Theories and models in reflective practice relevant to SLT

While numerous theoretical approaches to reflective practice exist (e.g., see Boud, Keogh & Walker, 1985; Dewey, 1933; Habermas, 1972, 1974; Kolb, 1984; Schön, 1983, 1987), consistent across these theories is that reflective practice involves: "1. reviewing experience; 2. critical analysis; and 3. reflective outcomes" (Koole, Dornan, Aper,

Scherpbier, Valcke, Cohen-Schotanus & Derese, 2011, p. 7). Common elements within theories also include the combination of theory with practical experience, the intention to learn from experience, the challenging of thoughts and beliefs, problem-solving, and critically questioning the experience (Arygyris and Schön, 1974; Dewey, 1933; Habermas, 1972; 1974; Schön, 1983, 1987). Additional to these common elements, each theory contains unique components that contribute to a broader understanding of reflective practice. Reflective practice can involve reflecting while in the midst of an experience, reflecting on the experience after the fact and reflecting for an experience that is yet to occur (Killion & Todnem, 1991; Schön 1983). This process may centre on the individual (Dewey, 1933), challenging "espoused theories" versus "theory-in-use," that is, those theories and beliefs individuals say that they abide by in their work versus what they actually do (Argyris and Schön, 1974). Additionally, reflective practice may incorporate a social aspect that takes the process further than just the implications for the individual (Habermas, 1972). It has also been suggested that reflective practice involves the context of the experience (Meizrow, 1990) such as alternative perspectives, specific strategies available for use, and pre-existing beliefs and biases. Comparison of theories reveals a focus on the processes of reflective practice (e.g., Dewey, 1933; Schön, 1983), and outcomes which can include practical solutions that consider both the individual and wider society (Habermas, 1972; Morrison, 1995).

Within the profession of speech-language therapy, there are inconsistent views regarding reflective practice. A recent review of reflective practice in speech-language therapy by Caty, Kinsella and Doyle (2014) revealed that of 20 papers that described the theoretical basis of reflective practice, 15 (75%) referred to the work of Schön in their descriptions. Other references made were to Kolb (1984) and Boud et al. (1985), overlapping these works with the concept of reflective practice. Both Kolb's experiential learning cycle

and Boud et al.'s reflective learning theory describe stages that the individual moves through following an experience. Both require that the individual reflects on the experience followed by a re-evaluation, which may involve attending to associated feelings, and thinking about the concepts involved in the experience. Following these steps, the individual reaches a conclusion that is carried forward into future situations. In both examples, the experience being reflected on is transformed to create further knowledge (Boud et al., 1985; Kolb, 1984). In addition, Kolb's theory suggests that effective learning takes place only on completion of each step. Boud et al.'s process has been criticised as being too retrospective, in that the primary focus is on past actions, leaving little room for in the moment reflection and can also lead to introspective reflection. (Finlay, 2008)

The findings of Caty et al. (2014) suggest that Schön's (1983, 1987) theory of reflective practice has been the most widely applied in the field of SLT. The works of Meizrow (1990), and Killion and Todnem (1991) were a valuable addition to that of Schön and therefore form the basis of understanding for this study. In summary it is evident that reflective practice has a well-documented theoretical base in the literature. With the increasing number of professions utilising reflective practice and drawing on various definitions, theories, and models of learning, it is only fitting that the process of developing student reflective practice skills be examined.

### 1.5 Development of student reflective practice skills

Reflective practice can help to develop students' clinical skills through improved reasoning and decision-making (McAllister & Lincoln, 2004; Wong et al., 1995). A clinical educator's role is to assist learners to competently navigate clinical situations (Wong et al., 1995), and reflective practice can assist in this process. It has been established that students' reflective practice skills develop over time (Davies, 1995; Durgahee, 1996; Johns, 1995;

Smith, 1998; Wong, Loke, Wong, Tse, Kan & Kember, 1997). There are four key stages of reflective practice development commonly described in the literature: (1) pre-reflection or non-reflection, (2) surface reflection; describing the experience, (3) pedagogical reflection; incorporation of theory or reorientation to factual knowledge, and (4) critical reflection; incorporation of multiple aspects to holistically reflect on the experience (e.g., Day, 1993; Farrell, 2004; Handal & Lauvas, 1987; Jay & Johnson, 2002; Larrivee, 2008; Plack et al., 2005; Taylor, 1987). Each stage moves the individual from acceptance to questioning of information and critical analysis of experiences.

The first stage, pre-reflection or non-reflection (Larrivee, 2008; Plack et al., 2005), encompasses those individuals who are not yet reflecting on practical experiences. Reactions to events at this stage are purely reflexive, without concentrated thought on alternative options. Often in this stage, individuals view other people or events as the cause of problems, failing to take into account their role and influence in the situation (Larrivee, 2008). Finally, individuals at this stage struggle to question their knowledge and behaviours and are limited in their ability to adapt practice to the needs of those around them. Individuals at this level are in need of support and teaching to begin reflecting on experiences.

The second stage of development is surface or descriptive reflection (Jay & Johnson, 2002, Larrivee, 2008; Plack et al., 2005). This stage is characterised by a focus on actions or skills, and how these impacted on the individual achieving their goals. Individuals at this stage fail to see the wider implications of experiences, instead describing experiences as standalone events. However, there is some level of awareness at this stage that practice needs to be accommodated for those who need it. At this stage of development, individuals are focusing on the technical aspects of their experiences (e.g., Day, 1993; Farrell, 2004; Plack et al., 2005; Schön, 1983; Valli, 1997), while underlying values, beliefs, and assumptions are not being explored.

The third stage represented in the literature is pedagogical reflection (Larrivee, 2008). Within the literature, the label for this stage has varied, from theoretical (Day, 1993) or deliberative (Valli, 1997), to comparative (Jay & Johnson, 2002), and conceptual (Farrell, 2004). At this stage, individuals begin to incorporate theory and belief with the view to provide quality practice. Individuals at the pedagogical reflection stage begin to encompass the theories involved in chosen approaches and link theoretical knowledge to practice. This focus on the link between theory and practice increases the individual's consistency in practice, as their rationale for practice is bolstered by theoretical knowledge (Larrivee, 2008). At this stage, the influence of context and personal beliefs are not yet incorporated into reflective practice.

The fourth stage of development is critical reflection (Larrivee, 2008; Plack et al., 2005). Critical reflection incorporates a wider range of factors such as moral and ethical implications of practice, and the effect these have on those receiving the services of the individual. Those who critically reflect recognise external factors such as the social and political environment in which they practice. Critical reflection has also been referred to as personalistic (Valli, 1997) or intrapersonal (Day, 1999). These two alternative terms highlight the aspects of self-awareness and self-assessment involved at this stage of reflection, as the individual who is reflecting beings to focus on their beliefs and practices. At this stage, the individual begins to integrate their own personal beliefs into professional practice, while challenging assumptions and biases. This reflection on self leads the individual to examine how their background, beliefs, assumptions, and cultural and familial upbringing impact on their practice (Larrivee, 2005). At this stage, the individual is able to reflect on their own practice while also remaining aware of the external factors influencing practice (Larrivee, 2008).

Several models for reflective practice have been established, such as Gibbs' Reflective Cycle (1988) constructed from Kolb's (1984) experiential learning cycle. This model suggests that theory and practice are caught in an endless cycle and has been adopted within the nursing profession as a method of facilitating reflective practice (Wilding, 2008). However, in the field of teaching, Zeichner and Liston (1996) argue that individuals should think more critically about the quality of their practice rather than simply answering questions or following the steps of a cycle. Opinions such as this have led to the development of more comprehensive models, such as that of Jay and Johnson (2002) who also divide reflective practice into three stages (descriptive, comparative and critical) with specific inclusion of alternative perspectives.

Although the use of models for reflective practice has been criticised as a hindrance to reflective practice that imposes too much structure and can act as a prison of thought (Johns, 2005), explicit teaching of high level reflective practice (critical reflection) may in fact help individuals to reach a balanced understanding of their experiences through reflection, improved thinking, and self-assessment (Smith, 2011). Despite the lack of standardised approaches to reflective practice or one 'right' way to reflect, the use of a reflective model such as Gibbs' (1998) can stimulate and structure the process of reflective practice (McDougall & Comfort, 2013). McDougall and Comfort (2013) further explored the use of models to state that it does not matter necessarily what model is used as it should simply act as a guide to the processes occurring. They concluded by highlighting the importance of following through with the whole process of the chosen model, as this is what provides rich reflective practice.

### 1.6 Methods of reflective practice

Different approaches to reflective practice are used throughout various professions. In medicine (e.g., Niemi, 1997), physiotherapy (e.g., Clouder, 2000; Williams & Wessel, 2004),

and nursing (e.g., Bulman, Lathlean & Gobbi, 2012; Epp, 2008) there have been reports of written and verbal reflective practice, using methods such as learning logs, semi-structured interviews/discussions, reflective journals, and group presentations. The use of written reflection has largely been reported with positive outcomes in student perceptions and learning (e.g., Clouder, 2000; Epp, 2008; Niemi, 1997). Reflective journals have been implemented successfully and have been shown to develop students' learning and reflective practice (Epp, 2008; Morrison, 1996). Other reports suggest that students feel uncomfortable with certain methods of reflective practice, such as being asked questions by supervisors in the moment (Clouder, 2000). While this may develop skills for reflection in action, students may feel that they are put on the spot, causing feelings of stress and uncertainty. Research involving interviews or discussion has reported positive outcomes, however outcome measures more often examine students' perceptions rather than verbal reflective practice skills specifically (e.g., Boenink, Oderwald, de Jonge, van Tilburg & Smal, 2004). Literature has also mentioned the use of prompts such as leading questions or headings to structure reflective practice. For example, Jay and Johnson's (2002) model of reflection structures the process so individuals examine the experience descriptively, comparatively, and critically. These three components are supported with prompting questions which are used to assist the development of reflective practice skills.

### *1.6.1 Methods of reflective practice in speech-language therapy*

Methods of written reflective practice in speech-language therapy include reflective journals (e.g., Chabon & Lee-Wilkerson, 2006; Hill et al., 2012) and reflective essays or summaries (e.g., Schaub-de Jong et al., 2009). A review of 42 papers by Caty et al. (2014) revealed that the use of written reflective practice was more common with students (14 papers, 33%) compared with practicing clinicians (4 papers, 10%). Reflective practice through group discussions included reflection with peers (Baxter & Gray, 2001), and others

including mentors (Higgs & McAllister, 2007) and supervisors (Geller & Foley, 2009). Caty et al. noted a trend in the literature towards the use of small groups for discussion, the context of reflective practice that this study focuses on.

Caty et al. (2014) noted that various materials have been used to facilitate discussion in the small group context such as case studies (Johnston & Banks, 2000), details of clinical practice (Fronek, Kendall, Ungerer, Malt, Eugarde & Geraghty, 2009), feedback on performance (Bruce, Parker & Herbert, 2001) and shared stories (O'Halloran, Hersh, Laplante-Levesque & Worrall, 2010). Although the use of prompts such as leading questions or headings for writing to structure reflective practice has been reported in other literature, Caty et al. did not report on any studies utilising prompts or structured activities for reflective practice in the field of speech-language therapy. The use of tools, prompts or activities to guide the reflective process may support reflective practice (Cook et al., 2014; Jay & Johnson, 2002). McAllister and Lincoln (2004) provide written prompts to assist students when reflecting on clinical practice. An adapted version of these which incorporates the impact of students' biases and assumptions (Plack et al., 2005) is currently used at the University of Canterbury to support students' written reflections (see Table 1 for the adapted version).

Table 1. *Prompts to Guide Students' Reflection on Clinical Practice*

| |
|---|
| - What was your overall impression of the session? |
| - What things went well during the session and what did you learn from these? |
| - What things went wrong during the session and what did you learn from these? |
| - What emotions can you remember feeling during the session? |
| - Did you observe or think about client emotions or behaviours during the session |
| - Did you observe or think about any of your own emotions or behaviours during the session? |
| - Did the session follow your plan? Why or why not? |

- What theoretical knowledge did you use or could you have used during this session?
- What past experiences did you use or could you have used during this session?
- What do you need to learn or find out about before the next session?
- What impact do you feel your own assumptions, values, beliefs or biases may have had on the session or observation?

McAllister & Lincoln (2004); Plack et al. (2005)

Previously undergraduate speech-language therapy students at the University of Canterbury have used assisting prompts or questions within games to guide reflective group discussion. It is thought that students have shown high levels of enjoyment, effective turn-taking and dialogue, and maintenance of topic when using these games and prompts. Multiple studies (Feinstein, 2001; Keys & Biggs, 1990; Wolfe & Crookall, 1998) support the use of simulations or games for learning. It has been suggested that games provide a level of engagement and flow that can have a positive effect on the learning process (Csikszentmihalyi, 2002). Games also facilitate interaction, collaboration and learning with peers (Ruben, 1999) and can also promote relationship building and peer learning (Gee, 2003). In addition, students are more likely to learn and have fun when they are engaged in an activity (Mastergeorge, 2009). The importance of cohesion and collaboration with peers in group discussion is explored further in section 1.7.

There is some disagreement on the benefit of structure on the development of reflective practice skills. It has been suggested that structure may inhibit creative thinking (Johns, 2005), and can transform reflective practice into a methodical process with "checklists that students work through in a mechanical fashion without regard to their own uncertainties, questions and meanings" (Boud & Walker, 1998, p. 193). Despite views that oppose the use of structured reflective practice, there is support in the clinical education literature for the implementation of structure. The use of structure to guide reflective practice may be beneficial to individuals who are reluctant to engage in the process. Johns (1994)

suggests that some practitioners are unresponsive to new ideas, passively resisting change. He states that “these practitioners will be unable to reflect” (Johns, 1994, p. 27) and may either engage in reflective practice with passive compliance or will reject the exercise entirely. With guidance, these practitioners can be challenged to open their eyes to their own behaviour, beliefs, and understandings with adequate support. The use of structured activities that vary from one occasion to the next may reduce the routine nature of reflective practice, and thus reduce the negative feelings or ‘non-learning’ (Gray, 2007) associated with compulsory reflective practice felt by many students. There is support in the literature for the use of prompts to guide reflective group discussions, however based on the opposing opinions of structured reflective practice in the literature, the balance of structure and freedom of thought is important to maintain. It is proposed that prompts or activities to guide reflective group discussion should be designed with these views in mind.

### 1.7 Verbal reflective practice in group discussion

Reflective group discussions may serve to assist student reflective practice through the incorporation of peer opinions, comments and perspectives. Reflective practice groups can be described as a combination of self-evaluation and peer learning, through supervisory conferences. The specific aim of these supervisory conferences or discussions is to facilitate reflective practice (McAllister et al., 2004). Reflective group discussion allows individuals to learn from one another and provides the opportunity to deeply examine experiences, stimulating curiosity and effective learning (Trognon & Batt, 2012). Reflective practice groups bring about a solidarity among students that has been reported to contribute more to professional development “than any other single aspect of their training or clinical experiences.” (Birden & Usherwood, 2013, p. 407)

For group discussion to be successful, various components are required such as trust, perceived benefit for energy expenditure, motivation for individuals to engage in the process, and adequate time (Finlay, 2008; Quinn, 1998/2000; Thorpe, 2003). When sufficient support and trust is present in groups there is the potential for honest dialogue with the use of a common language to express clinical practice and high-quality learning within group contexts (Bulman, 2008; Schaub-de Jong, Schönrock-Adema, Dekker, Verkerk & Cohen-Schotanus, 2011). Forsyth (2014) described the stages of group development that most groups pass through. The first stage is forming, where members become familiar with one another. The following stages are storming, norming and performing, where the group establishes and navigates differences in procedures, opinions and processes, finds cohesion and balanced relationships, ideas and communication, and performs at a high level of achievement. Finally, adjourning occurs where the group is terminated and/or tasks are completed. To move effectively through these stages, a group must have a minimum level of cohesion which leads to better member satisfaction and improved group productivity (Forsyth, 2014). Group cohesion is impacted by multiple factors such as social cohesion, task cohesion, perceptions of cohesion and emotional cohesion. When adequate group cohesion is present, the group is able to support self-insight, is a safe environment, and encourages self-regulation (Schaub-de Jong et al., 2011). A facilitator is often involved and responsible for supporting and guiding the processes within a group setting (Kienle & Ritterskamp, 2007). The methods involved in the facilitation of group discussion have been well documented, with resources and literature available on the methods and strategies involved for facilitation (e.g., Brookfield, 2005; Collison, Elbaum, Haavind & Tinker, 2000; Kienle & Carsten Ritterskamp, 2007; Loughran, 2002). Literature highlights the importance of effective facilitation in achieving positive group outcomes, and guiding students to reach their own conclusions. It has been noted that when an effort is made by the facilitator to stimulate meaningful discussion, students are

more likely to participate and contribute on-topic statements (Mastergeorge, 2009). It is important that the components necessary for successful groups such as trust, time, cohesion, safety, and effective facilitation are present, in order to achieve the purpose of the group.

Group reflective practice involves the interaction of multiple perspectives and opinions of those involved while personal reflective practice has been criticised as being 'too individualistic' (McDougall & Comfort, 2013). Without the input of alternative perspectives found in groups, personal reflective practice may limit the scope of reflective practice itself therefore reducing changes in behaviours and beliefs (Clouder, 2000). McDougall and Comfort suggest when an individual reflects it is easy to avoid or limit analysis of personal assumptions and feelings while reflective practice within a group increases the possibility that these ideas will be challenged to encourage new understanding. Reflective practice may be improved through group collaboration as behaviours or patterns that are deeply ingrained can limit the critical nature of self-perception. Analysis of behaviours or patterns within a group is a collaborative and cooperative endeavour, which may lead to increased learning (Osterman & Kottkamp, 1993). Student responses have indicated positive attitudes toward group discussion (McGrath & Higgins, 2005; Schaub de Jong et al., 2009). Reflective practice groups have been reported as worthwhile experiences that help students to link theory and practice (McGrath & Higgins, 2005). Students have also reported that group meetings help them to gain insight into personal and professional behaviours, as personal awareness is increased and students question who they are and why they behave as they do (McKinlay & Ross, 2008; Schaub de Jong et al., 2009). Another study reported that small-group discussion "led to group problem solving, the validation of students' experiences and values, [and] discussion of the origin and nature of negative behaviours and attitudes" (Seymour & Watt, 2015, p. 518).

In summary, there is support for the use of group discussion in reflective practice as a tool in clinical education. The interaction of peers allows for the exchange and comparison of beliefs and behaviours, perspectives and opinions, and creates a new sense of personal awareness for those involved.

## 1.8 Assessment of reflective practice skills

Evaluation is essential in all educational processes (McGrath & Higgins, 2005). In order to truly determine the effectiveness of an exercise, there must be some form of assessment or evaluation (Koole et al., 2011). Commonly reflective practice is assessed either by an external observer or through self-assessment (Koole et al., 2011). Assessment measures can involve direct observation of the individual's reflective practice skills in practice, or examination of individuals' reasoning processes or perceptions of reflective practice skills (e.g., Cook et al., 2014; Duke & Appleton, 2000; Wong et al., 1995). The current study intends to directly observe and assess speech-language therapy students' verbal reflective practice skills within group discussion.

Koole et al. (2011) identified four problems associated with the assessment of reflective practice: "inconsistent definitions of reflection, lack of standards to determine (in) adequate reflection, factors that complicate assessment, internal and external factors affecting the assessment of reflection." (Koole et al., 2011, p. 1). Koole et al. suggested that when assessing reflective practice, there must be consensus among those involved about what is expected in reflective practice. The validity of the assessment procedure must also be carefully monitored, as assessor of reflective practice is only doing so through their interpretation of the processes and behaviours being assessed (Koole et al., 2011). Both Bourner (2003) and Plack et al., (2005) have suggested that the content and process of reflective practice be seen separately. The content of reflective practice is subjective in

nature, while the process is often more general. Bourner suggests that behaviours such as an individual's ability to formulate goals and other observable behaviours should be used to assess an individual's reflective practice. Approaching assessment in this way may increase the validity of the process. Another aid to increasing validity of assessment is the incorporation of information about the event being reflected on. (Koole et al., 2011) It is important to establish the preceding events of reflective practice in order to assess the full scope. Structuring reflective practice may provide the means to draw out information on student behaviours such as goal setting, and may also create opportunities for those reflecting to further discuss the events being reflected on.

Alternatively, students could self-assess their level of reflective practice, which in turn may encourage students by motivating them to influence their situations (Leach, Neutze & Zepke, 2001). The use of self-assessment might also be advantageous in that assessment is completed introspectively by the reflector themselves. This method removes the external observer, and allows direct report from the individual reflector on a process that only they are privy to (Koole et al., 2011). Conversely, this method may introduce further questions of validity as it is unclear whether the assessment is measuring the individual's ability to reflect or ability to introspect (Kruger & Dunning, 1999).

When assessing reflective practice, it is important to be critical of the method used for assessment. Various problems exist in the area of assessment (Koole et al., 2011) such as inconsistent understanding of reflective practice, questions of validity of assessment measures, and reliability between markers. It is clear that caution should be taken when assessing reflective practice however with adequate guidelines assessment can and should be completed.

### *1.8.1 Assessment of written reflective practice*

Written reflective practice has been commonly evaluated via coding or rating of written reflections. A variety of coding systems exist (see Table 2 for details). While different, they share a common set of literature on which they are based. These methods are effective in establishing the levels of reflection present in written reflection (Wong et al., 1995; Kember, 1999; Plack et al., 2005; Hill et al., 2012). Other studies have reported reliable assessment of levels of reflection as well as the development of reflective practice skills over time (Duke & Appleton, 2000; Cook et al., 2014).

Table 2. *Details of Coding and Rating Systems Used to Assess Written Reflection*

| Author of coding/rating system | Study population | Theory and methodology followed | Coding/rating subcategories | | Reliability of coding system |
|---|---|---|---|---|---|
| **Wong et al. (1995)** | Registered nurses in a post-registration study | Boud et al. (1985)<br>Meizrow (1990) | *Elements of reflection:*<br>Attending to feelings<br>Integration<br>Validation<br>Appropriation<br>Outcome of reflection | *Overall level of reflection:*<br>Non-reflector<br>Reflector<br>Critical reflector | Coefficient = 0.88 |
| **Kember et al. (1999)** | Nursing, OT, PT & Radiotherapy students | Meizrow (1990)<br>Wong et al. (1995) | Habitual action<br>Understanding<br>Reflection<br>Critical reflection | | Cronbach alpha = 0.74 |
| **Duke & Appleton (2000)** | Registered nurses in a post-registration study | Schön (1983)<br>Boud et al. (1985)<br>Johns (1995) | Description<br>Focus<br>Analysis of feeling<br>Analysis of knowledge<br>Analysis of contextual influences | Implications for practice<br>Implications for learning<br>Action planning<br>Clarity of writing<br>Referencing of sources<br>Self-evaluation | Not reported |

| | | | | | |
|---|---|---|---|---|---|
| | | | Synthesis | | |
| **Boenink et al. (2004)** | Undergraduate medical students | Schön (1983, 1987) | *Overall reflection score:*<br>Oversimplified<br>Limited/restricted<br>More than 1 perspectice but unbalanced<br>More perspectives, some balance<br>Differentiated balancing<br>A fully balanced approach | *Mention of perspectives:*<br>Not at all<br>Once<br>Extensively | 0.53-0.94, Pearson's r |
| **Plack et al. (2005)** | Physiotherapy students | Boud et al. (1985)<br>Schön (1987)<br>Meizrow (1990) | *Breadth of reflection:*<br>Reflection in action<br>Reflection on action<br>Reflection for action<br>Content<br>Process<br>Premise<br>Returns to experience<br>Attends to feelings<br>Reevaluates | *Depth of reflection:*<br>Nonreflection<br>Reflection<br>Critical reflection | Breadth: ϕcoefficient not determined<br>Depth: ϕcoefficient = 0.74 |
| **Hill et al.** | Speech-language | Boud et al. | *Breadth of reflection:* | *Depth of reflection:* | See |

| | | | | | |
|---|---|---|---|---|---|
| **(2012)** | therapy students | (1985)<br>Schön (1987)<br>Meizrow (1990)<br>Plack et al. (2005) | Reflection in action<br>Reflection on action<br>Reflection for action<br>Content<br>Process<br>Premise<br>Returns to experience<br>Attends to feelings<br>Reevaluates | Non-reflection<br>Reflection<br>Critical reflection | reference |
| **Cook et al. (2014)** | Speech-language therapy students | Boud et al. (1985)<br>Schön (1987)<br>Meizrow (1990)<br>Plack et al. (2005)<br>Hill et al. (2012) | *Breadth of reflection:*<br>Reflection in action<br>Reflection on action<br>Reflection for action<br>Content<br>Process<br>Premise<br>Returns to experience<br>Attends to feelings<br>Reevaluates | *Depth of reflection:*<br>Nonreflection<br>Emerging reflector<br>Reflection<br>Emerging critical reflector<br>Critical reflection | Breadth:<br>Average percent agreement<br>Inter-rater = 72%<br>Intra-rater = 94%<br>Depth: not reported |

The coding system used by Duke and Appleton (2000) to assess the development of written reflective practice skills over time was reported as a reliable method of assessment. This study revealed important aspects of reflective practice and the development of skills over time. They found that skills such as “analysis of knowledge and contextual influences on care, and action planning” (Duke & Appleton, 2000, p. 1565) achieved lower grades, suggesting that these skills were more difficult to achieve. Duke and Appleton also reported significant improvement in some skills over time: the description of practice, the analysis of feelinds, the knowledge of the context of care, the synthesis of description and analysis and the raising of implications for practice with reference to knowledge (Duke & Appleton, 2000.). These findings support prior literature that suggested that higher levels of reflection are more difficult to achieve, that is, students will find it difficult to achive the full breadth of reflectice practice skills, and that overall reflective practice may vary in depth (Powell, 1989; Day, 1993; Wong et. al., 1995). The results of Duke and Appleton also support the notion that reflective practice skills develop over time (Davies, 1995; Durgahee, 1996; Smith 1998; Wong et al., 1997), however it was noted that development of skills suggesting critical reflection was less evident. The authors suggest that higher level skills take a longer time to develop, and that other factors such as quality of mentor or influence of dialogue may be factors in the development of these skills.

The use of coding schemes is not without its challenges. Inconsistent agreement across raters is common (Wong et al., 1995; Kember, 1999; Plack et al., 2005) as raters are required to interpret discussion of an experience rather than statements directly about reflective practice or the reflective process. This means that statements being coded often do not fit neatly under one subcatergory or code (Wong

et al., 1995). Other difficulties in achieving high rater reliability involved raters interpretations of the significance of statements. Raters more often disagreed about the significance of statements rather than a misunderstanding of the coding categories (Kember, 1999). Conversely, raters using the coding scheme defined by Plack et al. (2005) perceived codes differently to one another, each rater applying codes to statements based on different understandings of what was required for the code to be applicable. Despite this difficulty, Plack et al. reached an acceptable level of inter-rater reliability for seven of the nine breadth elements coded.

The Plack et al. (2005) coding system built on theories of reflective practice (e.g., Boud et al., 1985; Meizrow, 1990; Schön, 1987) and earlier coding schemes (e.g., Wong et al., 1995) to include elements such as reflection in action (Schön, 1983). It assesses a broad range of reflective practice skills (breadth of reflection) and has been used to reliably assess reflective practice skills in written reflection of physiotherapy (Plack et al., 2005) and speech-language therapy students (Hill et al., 2012). The elements coded through this scheme are able to be split into low level and high level skills. A student presenting the very lowest level skills such as return and attends to feelings would represent a non-reflector or descriptive reflector. The remaining low level skills (reflection on action, reflection for action, and process) are commonly expected to be present and represent a certain capacity for reflection for example a student showing evidence of  reflection (Plack et al., 2005), or pedagogical reflection (Larrivee, 2008). High level skills are those considered more critical, encompassing a wider range of skills such as reflection in action, inclusion of multiple perspectives (content), examination of self (premise), and comparison to other experiences (re-evaluates). An individual that shows evidence of high level skills would be classed showing critical reflection for their overall reflection (depth of

reflection) (Cook et al., 2014; Hill et al., 2012; Plack et al., 2005). As the current study chose to apply the coding system to verbal reflective practice within a group discussion setting, only breadth of reflective practice was measured to avoid the influence of differing reflective practice skills within a group. By organising the elements from low level to high levels of reflective practice skill, the assessment of overall depth as rated by Plack et al. and Hill et al. (2012) was not viewed as necessary. Rather, this could be inferred by assessing the range of elements evident within a group. This coding scheme has also been used to reliably assess development of reflective practice skills over time (Cook et al., 2014). This study used guiding questions and constructive feedback alongside the coding scheme to assess the development of speech-language therapy students written reflective practice skills. This study found that guidance of reflective practice through constructive feedback on the process of reflection (not content) promoted development of students' reflective practice skills. Based on the results of previous literature, this study aimed to apply the Plack et al. coding procedure to measure the breadth and development of reflective practice in verbal discussion.

### *1.8.2 Assessment of verbal reflective practice*

There is limited data available in the literature regarding procedures for assessment of verbal reflective practice skills. Furthermore, research to date has been largely qualitative (de Groot et al., 2013; Wainwright et al., 2010). See Table 3 for a detailed description of current approaches. In each method, the purpose of coding is to identify the breadth and/or depth of reflective practice skills that individuals possess. It is possible to assess the level of verbal reflective practice skill and its development over time (Boyd, 2008; de Groot et al., 2013; Wainwright et al., 2010).

Table 3. *Studies Assessing Verbal Reflective Practice Skills*

| Author | Study population | Theoretical base | Assessment method | Subcategories of coding scheme |
|---|---|---|---|---|
| **Boyd (2008)** | Dental students | Schön (1983)<br>Boud et al. (1985)<br>Dewey (1933)<br>King & Kitchener (1994) | Written reflections<br>Interviews | Pre-reflective thinking: (3 stages)<br>Quasi-reflective thinking:<br>(2 stages)<br>Reflective thinking: (2 stages) |
| **Wainwright et al. (2010)** | Novice and experience physiotherapists | Schön (1983, 1987)<br>Atkins & Murphy (1993) | Observation of clinical practice<br>Interviews | Reflection in action (RIA)<br>Reflection on specific action (ROSA)<br>Reflection on professional experience (ROPE) |
| **de Groot et al. (2013)** | Practicing veterinarians | | Critically reflective dialogues | Critical opinion sharing<br>Research utilisation<br>Openness about mistakes<br>Challenging groupthink<br>Asking for and giving feedback Experimentation |

While there has been some research on assessment of verbal reflective practice skills, qualitative and quantitative research in this area is lacking. A method of assessing verbal reflective practice skills is necessary, as the use of group discussion is increasing (Caty et al., 2014). Current methods have used original coding schemes that have not been replicated, or have been poorly defined. A reliable assessment method for written reflections such as Plack et al. (2005) should be applied to verbal reflection within a group setting to explore how verbal reflective practice skills develop in this context.

### *1.8.3 COMPASS ®*

An additional tool available to assess observable reflective practice skills is COMPASS® (McAllister et al., 2013). COMPASS® is a psychometrically validated assessment tool used in Australia and New Zealand to assess the development of speech-language therapy students' clinical skills. The assessment consists of four professional competency units, and seven Competency-based Occupational Standards (CBOS) units which form an overall clinical competency. Each unit contains between three to eight individual elements, which are expected skills within that unit. The purpose of COMPASS® is not only to assess students' competency but also to structure teaching and establish goals to further skill development. Students are expected to move from novice, to intermediate to entry-level in each competency by the end of their formal training. Students self-assess their competency at element or competency levels by marking a VAS scale. Clinical educators also use the VAS scale to judge observable behaviours at element or competency levels. Assessment relies on individual, subjective judgement however the format and scoring process operate on a shared understanding of the competencies, ensuring reliability and validity.

Two professional competency units within COMPASS® (McAllister et al., 2013) specifically relate to students' components of reflective practice. The Reasoning and Learning competency unit consist of elements that describe processes either involved in or prompted by effective reflective practice (see Table 4). A students' ability to demonstrate these elements can indicate the level of their reflective practice skills. For example, a student who is marked at a novice level for the element "reflect on performance" (McAllister et al., 2013) would likely require moderate support of the clinical educator suggesting low reflective practice skill level in this area. It is suggested that the novice, intermediate and entry-level stages of development map to the depth of reflection component found in Plack et al.'s (2005) coding system: non-reflection, reflection, and critical reflection. It is reasonable to assume that as students move from novice, to intermediate, to entry-level in the Reasoning and Learning competencies that they would increase the depth of their reflective practice. Additionally, the Plack et al. elements (see Table 2) used to assess breadth of reflective practice can be mapped to the elements in the Reasoning and Learning competencies.

*Table 4. Reasoning and Learning Competency Units and Elements*

| **Professional Competency Unit** | **Elements** |
|---|---|
| **Reasoning** | Use effective thinking skills to ensure quality speech pathology practice |
| | Integrate collaborative and holistic viewpoints into professional reasoning |
| | Use sound professional reasoning strategies to assist planning for all aspects of service management |

| | |
|---|---|
| **Learning** | Reflect on performance |
| | Structure own learning/professional development |
| | Demonstrate an effective attitude to learning |
| | Be able to change performance |

McAllister et al., 2013

These specific professional competency units are considered to be indicative of students' reflective practice skills. It is proposed that student ratings on the Reasoning and Learning competency units may provide a guide to assess student reflective practice skills for this study.

## 1.9 Speech-language therapy and verbal reflective practice

There is minimal literature on verbal reflective practice specific to the field of speech-language therapy. Most recently, Hill et al. (2012) and Cook et al. (2014) have applied Plack et al.'s (2005) coding scheme to assess speech-language therapy students' written reflective skills. Due to the paucity of literature on assessment of verbal reflective practice skills over a wide variety of fields such as nursing (McGrath & Higgins, 2005), physiotherapy (Wainwright et al., 2010), dentistry (Boyd, 2008) and veterinary health (de Groot et al., 2013) this study attempted to apply a reliable method of speech-language therapy student written reflection to speech-language therapy student verbal reflection.

## 1.10 Summary and aims

The purpose of clinical education is to develop the skills required of competent clinicians. Reflective practice skills have been shown to develop over time in a range of fields (e.g., Cook et al., 2014; Davies, 1995; Durgahee, 1996; Smith, 1998; Wong et al., 1997) however there is limited research specific to the area of

verbal reflective practice development, especially so in the field of speech-language therapy. Literature to date has largely focused on written reflective practice, methods to encourage or prompt written reflection (Chabon & Lee-Wilkerson, 2006; Hill et al., 2012; Schaub-de Jong et al., 2009), and the assessment of writing. Some research has examined verbal reflective practice through interviews (Boyd, 2008) or group discussions (de Groot et al., 2013). Of the assessment literature available, the majority of research is qualitative in nature therefore the contribution of quantitative data would add to the understanding of reflective practice skills. Further research is required on how to facilitate and reliably assess verbal reflective practice skills in particular.

## 1.11 Research question

Does the use of structured activities within reflective practice groups develop students' reflective practice skills to a greater extent than the current standard practice approach?

## 1.12 Hypotheses

(1) The use of an experimental practice approach will develop reflective practice skills to a greater extent than the standard practice approach, evidenced by a greater increase of high level reflective elements.

(2) Student perceptions of reflective practice will improve more in groups in the experimental practice condition compared to those in the standard practice condition, as reflected by: (a) a greater increase in group response scores on a reflective practice questionnaire, and (b) an increase in on-topic statements and a decrease in off-topic statements.

(3) Facilitators of reflective practice groups using an experimental practice approach will report better perceived outcomes than facilitators using the standard practice approach, evidenced by higher response scores on an online questionnaire using a VAS.

# 2. Method

## 2.1 Participants

A total of 33 individuals (31 female, 2 male) participated in the current study. Twenty-seven were students in the third year of the undergraduate Bachelor of Speech and Language Pathology programme, and six were postgraduate students undertaking the MSc in Speech and Language Sciences programme, completing a clinical education pathway. The undergraduate students involved in the study were required to participate in reflective practice groups as a part of a 300-level clinical paper but did not receive a grade for participation nor from data taken from the group discussions. Post-graduate students were also required to participate as facilitators of reflective practice groups, as a part of a post-graduate clinical paper. The Post-graduate students were qualified speech therapists, training to become Clinical Educators (CEs), and referred to as such for the purpose of the study. Participation in reflective practice groups is standard practice and mandatory in order for undergraduate and postgraduate students to complete respective clinical papers. Undergraduate students were undertaking various clinical placements working with children and adults at the University of Canterbury Speech and Hearing Clinic and in the field, for the duration of data collection. This study was reviewed and approved by the Educational Human Ethics Committee of the University of Canterbury, New Zealand (see Appendix A). Student participants were provided an information sheet regarding the purposes of the study and provided written consent to participate (see Appendix B). CE participants were also provided an information sheet regarding the purposes of the study and provided written consent to participate (see Appendix C).

## 2.2 Procedures

Reflective practice groups took place at the University of Canterbury Speech and Hearing Clinic, within clinic rooms which allowed audio-visual recordings to be made. Each clinic room was the same size and set up with the same furniture layout, consistent across weeks. Groups were facilitated by post-graduate students (CEs) trained to facilitate the groups in accordance with the protocols of the study. A CE was present in all reflective practice groups and facilitated the group within a clearly defined and limited role. No CEs who were researchers for this study were involved in facilitation of groups in order to prevent conflict of interest.

This study utilised a mixed design. A two-group, non-randomised, pre-test post-test design was employed with six groups (three who engaged in experimental practice, three who did not). The study comprised of two phases - an initial phase of group dynamics development, and an intervention phase.

### *2.2.1 Group dynamics development (Phase 1)*

Students were equally distributed into groups based on level of reflective skills to ensure balance. COMPASS® (McAllister et al., 2013) clinical competencies in reasoning and life-long learning were the chosen assessment measures. COMPASS® is used throughout the degree to assess a number of clinical competencies that students should develop throughout their training. Assessment scores from the students' most recent COMPASS® assessment were used to determine groups. Scores on the Reasoning and Learning competencies were used to distribute students with high or low levels of skill in these competencies evenly across groups. This approach was adopted to minimise the impact of pre-existing reflective practice skills on results, by avoiding the presence of groups with multiple skilled (critical reflector) or

unskilled (non-reflector) individuals. Groups contained no more than five students each, in accordance with the suggestion of Duke and Appleton (2000) that groups should contain no more than ten students. Once groups of equitable ability were established, these groups were randomly assigned to the experimental practice (structured activities) or standard practice (unstructured discussion) condition. All students engaged in a six week block of group discussion centred on articles related to clinical issues. The use of articles for discussion in reflective practice groups is part of standard practice. The initial phase of six group discussion sessions over six weeks acted as a settling in period in which group cohesion and development occurred (Forsyth, 2014). These six weeks of discussion prior to commencement of the study period allowed for rapport building and establishment of group dynamics prior to commencement of the intervention phase, or the 'forming, storming and norming' stages of group development as described by Forsyth (2014).

### *2.2.2 Intervention phase (Phase 2)*

Phase 2 involved weekly reflective practice groups conducted over a period of six weeks. Group discussion during this phase centred on students' clinical experiences. The groups ran for approximately one hour, a portion of which became the data collected for the current study. The average portion of discussion transcribed was 30:01 (minutes:seconds), ranging from 18:48 to 40:18. Groups were run according to Brookshire's (2003) session organisation format in order to ensure this time period, and consistency of group execution. This format is used by students and clinicians within the Department of Communication Disorders to organise client sessions and this provided a familiar structure for students and CEs alike. It has been designed to set the client at ease as they enter into a session, provide success at key times (such as the beginning and end of a session), and to give the session a repeated

structure that is easy for both the client and therapist to follow (Brookshire, 2003). Students allocated to the standard practice approach participated in reflective practice groups as per the current approach used by the University of Canterbury Department of Communication Disorders. This approach involved the facilitation and engagement in discussion by students and with support from a CE. Discussions integrated previous experiences and knowledge in an effort to assist with problem solving case management and team based queries as they arose. Students allocated to the experimental practice approach were provided structured activities through which discussion was facilitated. Structured activities were accompanied by questions developed from prompts for reflection (McAllister & Lincoln, 2004), specifically structured to increase and enhance the breadth of reflective statements, as defined by Plack et al., (2005). At conclusion of reflective practice groups at Weeks 2, 4, and 6 students also completed a VAS questionnaire. Full details of the questionnaire and administration are included in sections 2.3.4 and 2.3.5.

### *2.2.3 Development of reflective practice questions and activities for discussion*

Structured activities and questions/prompts were developed to provide a framework for reflective discussion and enhance development of reflective practice skills. Six activities were developed in total, which were intended to prompt reflective statements from students, enhance discussion, and improve student perceptions of reflective practice within the group setting.

Question/prompt development: Each activity contained seven questions/prompts, mapped to the codes for breadth defined by Plack et al., (2005) (see Table 5 for codes). In initial development of questions, the prompts to assist

written reflection by McAllister et al., (2004) were mapped to Plack et al.'s codes (see Appendix D for prompts mapped to codes). The nature of the prompts was such that they could be adapted for use in dialogue to guide verbal discussion. The method of mapping of McAllister & Lincoln's prompts to Plack et al.'s codes for breadth of reflection was adopted from the Cook et al. (2014) study on written reflection and was used as a starting point from which to develop questions for verbal reflection. Six variations of each question/prompt were developed with the intent to elicit the same type of reflective statements across the six weeks. A full list of the questions/prompts can be found in Appendix E. These questions were reviewed by project supervisors, and then given to University CEs (paid clinical staff of the Department of Communication Disorders) who had previous experience analysing written reflections with the Plack et al. system. University CEs were asked to group questions and assign what breadth code they felt the statement best fit under. Following review of questions, this was repeated in collaboration with the project supervisors until consensus was reached to ensure that questions were eliciting the correct type of statement. The questions/prompts were written in a format that all students were able to contribute an answer to and clear protocols were developed to ensure that students did not feel that they were restricted in their responses nor did they have to respond if they could not.

Table 5. *Breadth Elements of Reflection with Codes*

| **Element of reflection** | **Code** | **Brief definition** |
|---|---|---|
| 1 Reflection in action | RIA | Occurs while in the midst of an action; on the spot decisions |
| 2 Reflection on action | ROA | Occurs after the action has been completed |
| 3 Reflection for action | RFA | Occurs before being faced with the situation; |

| | | |
|---|---|---|
| | | begins to plan for the future |
| 4 Content | CON | Explores the experience from a number of perspectives (beyond description) |
| 5 Process | PROC | Describes the strategies used or available |
| 6 Premise | PREM | Recognises and explores own assumptions, values, beliefs and biases |
| 7 Returns to experience | RETRN | Describes the experience |
| 8 Attends to feelings | ATTEND | Acknowledges and begins to work with feelings |
| 9 Re-evaluates | RE-EVAL | Reappraises the situation vis-à-vis past experiences |

Adapted from Plack et al. (2005)

Structured activity development: CEs in the experimental practice group facilitated the session using a different structured activity across six weeks; all three experimental practice groups followed the same order of activities, having been provided an activity schedule (see Appendix F) prior to commencement of the study. Activities were reviewed by project supervisors, and piloted by eight second year and four fourth year BSLP students. Following pilot of activities, minor reviews were made to activity instructions until agreement of terminology and protocol was reached. Final reviews aimed to maximise the flow of activities and extent to which these would be understood by students. Table 6 lists the final activities with a brief description. Each activity involved student turn-taking following which, a student would read out a question to the group.

Table 6. *Activities with Brief Description*

| **Activity Name** | **Brief Description** |
|---|---|
| Pass the Parcel | Pass the Parcel involved passing a parcel around the circle while |

| | |
|---|---|
| | music played on an iPad. When the music stopped, the student holding the parcel would unwrap a layer to reveal a question |
| Weekly Items | Weekly Items were seven physical items such as a mirror, magnifying glass and glitter that each related to a specific question. |
| Board Game | Board Game involved moving game pieces along a board of multiple coloured squares. Each colour related to a specific question. |
| Dice Roll | Dice Roll involved taking turns to roll an 8-sided dice. Each number correlated to a specific question. |
| Token Toss | Token Toss involved throwing tokens onto coloured dots, each colour relating to a specific question. |
| Fortune Teller | Fortune Teller involved the use of a paper fortune teller, with a different question under numbers on the paper. When a student chose a number, the question underneath was read aloud. |

### *2.2.4 Training of CEs*

A multistep training module, developed to maximise consistency in CE practices, was completed prior to the commencement of the intervention phase of the study. Step 1 involved education to successfully follow the Brookshire's (2003) format of session organisation, with or without the additional use of structured activities. Step 2 involved the distribution of written guidelines and instructional videos, designed to instruct CEs in the specific facilitation method they were assigned (see Appendix G for standard practice guidelines and Appendix H for experimental practice guidelines). Each set of guidelines were formatted similarly, with specific reference to either standard practice or experimental practice. These guidelines and videos were sent via email to the CEs three weeks prior to the first reflective practice group. CEs using structured activities were also provided with written instructions for

each activity (Appendix I). Step 3 involved a meeting between the CEs and primary author of the study during a 1 hour training session to discuss techniques, questions and potential difficulties. This training session ran two weeks prior to the first reflective practice group. Separate sessions were run for the CEs using the standard practice approach, and those using the experimental practice approach. During training sessions, CEs were provided definitions of on-topic and off-topic statements. This ensured that CEs could identify when students began to discuss unrelated topics, and were able to direct students back to the topic at hand. Time spent in discussion was therefore maximised for quality and relevance. Step 4 involved distribution of the written minutes of the training sessions. It was intended that these would be used freely by CEs as a reference throughout the duration of the study. The final step involved CEs meeting to debrief and problem-solve issues that arose during the first reflective practice group. No further instruction or training was given to the CEs for the remainder of the study. As in McGrath and Higgins' (2005) study, CEs were trained to facilitate the reflective practice group only by prompting or asking questions in order to generate discussion. CEs were advised that if students had no contributions to make following a prompt, they may contribute a personal experience with the purpose of igniting student discussion.

## 2.3 Measures

Study outcomes were assessed using four quantitative measures: 1) transcription and coding of reflective statements for breadth of reflection, 2) undergraduate student completion of a VAS questionnaire regarding reflective practice skills and reflective practice groups, 3) counting of on-topic versus off-topic student statements within group discussion, and 4) CE completion of a VAS questionnaire related to reflective practice groups.

### *2.3.1 Transcription of reflective practice group discussions*

Data was collected from discussion time in each reflective practice group every week. Groups were specifically formatted to include a discussion time clearly defined by lead-in and closing statements made by the CE e.g., 'Now let's discuss clinical experiences from this week' to open discussion, and 'Great discussion, let's wrap up.' to close. Audio-visual recordings were made of each group in its entirety, however only statements made in the time between discussion lead-in and closing statements were coded. The total time to be transcribed and coded per group was identified through the presence of these lead-in and closing statements. Audio-visual recordings were transcribed to a written format, using ExpressScribe for Windows™.

### *2.3.2 Coding of reflective practice group transcriptions*

Written transcriptions of discussion within reflective practice groups were coded using the method defined by Plack et al. (2005); however this was adapted to only assess breadth of verbal reflective practice within a group context. Data for this study included transcriptions from Week 2 and 6 of the intervention phase. Transcriptions were coded at word, sentence and paragraph levels, with the occurrence of each code counted for each group. Training in use of the coding system to assess breadth elements was not necessary for the primary rater as they had experience from a previous study (Cook, Tillard, Wyles & Keast, 2015). Previous training and experience involved discussion of elements and application to written reflections. Raters jointly coded written reflections to reach agreement before independent coding was undertaken (Cook et al., 2015).

### *2.3.3 Number of on-topic and off-topic statements*

The total number of on-topic and off-topic statements made by students within each group during the allocated discussion time was also counted. Facilitators were trained to make statements such as “Can you expand on that statement?”, or “Does anyone else have an experience/thought they want to share around this?”, where prompting for discussion or direction back to topic was required. For this reason, their statements were not counted in the total count. An on-topic statement was broadly defined as a statement that related directly to the current topic and had clinical relevance. Definitions of on-topic and off-topic statements required refinement following preliminary review of group discussion. A review revealed that students would make reference to external assignments which at times were relevant to reflective practice, and at other times were not. The definition of an on-topic statement was expanded to include statements that while not relevant directly to the purpose of reflective practice group, did explore the clinical application of an assessment such as an ePortfolio. The definition of an off-topic statement was expanded to include statements that did not relate to the current topic, made reference to an assessment with no clinical application, or a non-response such as, ‘I don’t know’ without a follow-up statement to explain this response. Fillers such as laughter, ‘yea/yep’, ‘um’ and ‘ah’ were not counted in the equation.

### *2.3.4 VAS questionnaires*

A VAS questionnaire was distributed to students at Weeks 2 and 6 of the intervention phase. A separate VAS questionnaire was also distributed to CEs at the same time points. The aim of the questionnaires was to gauge group perceptions of reflective practice, how this changed over the course of six weeks, and specifically,

the impact of structured activities on this change. In order to ensure high response rate, time was set aside within the one hour allocated for reflective practice groups for students and CEs to complete the questionnaire via a URL link. Students absent from groups on these weeks were sent a reminder on the day of the reflective practice group, however if they did not complete the questionnaire following a reminder, their response for this time point was not collected. Questionnaires were formatted to require responses from all questions in order to progress onto the following question. Students and CEs were unable to submit the questionnaire without responding to all questions. Questionnaires were presented in an online format, which allowed for standardization of line length among surveys, increased speed of access to data, and accuracy of scoring. Students marked on a scale in response to statements about reflective practice.

### *2.3.5 Development of VAS questionnaires*

The student VAS questionnaire was primarily developed by reviewing key terminology from the reasoning and life-long learning competencies of COMPASS® (McAllister et al., 2013), the Classroom Critical Incident Questionnaire (Brookfield, n.d.), and reflective elements of Plack et al. (2005). Questions were reviewed by project supervisors and streamlined to begin with the carrier phrase 'I am able to…' The questionnaire was reviewed by University CEs and final year BSLP students, with specific information received in relation to statements ability to be understood and relevance to reflective practice. Following the receiving of this information, minor revisions were made such as changes in wording and inclusion of the term 'reflect' in each question. The final questionnaire contained 25 questions relating to reflective practice (see Appendix J).

The CE VAS questionnaire was developed and face validity tested initially through review by University project supervisors. Questions were reviewed by project supervisors and streamlined to begin with the carrier phrase 'My RP (reflective practice) group…' The questionnaire was also piloted by University CEs, with specific information received in relation to questions ability to be understood and relevance to reflective practice. Following pilot testing, final changes were made to ensure maximum readability and ability to be understood. The final questionnaire contained 9 questions relating to reflective practice groups (see Appendix K).

## 2.4 Data analysis

### *2.4.1 Analysis of transcription/reflective practice statements*

The number of breadth elements present for each group was counted and recorded. A paired *t*-test was used to determine significance of time effect and an unpaired *t*-test was used to determine significance of condition effect.

A Poisson regression model was used to analyse count data at individual element level. Individual generalised linear models were fit to analyse element-time combinations for example, Element 1 at pre intervention, Element 1 at post intervention, Element 2 at pre intervention, Element 2 at post intervention and so on. Each model produced an estimate of the differences in expected counts for experimental practice and standard practice groups. As the purpose of this research was to look at development over time, time effect was estimated by combining the generalised linear models for each element (at pre intervention and post intervention) (Pipper, Ritz & Bisgaard, 2012).

Additionally, raw counts of each element between conditions and across time were graphed and explored. Descriptive interpretation of this was undertaken.

### *2.4.2 On- and off-topic statements*

The total number of on-topic and off-topic statements was counted and compared between experimental practice and standard practice groups. A three-way contingency table that took into account condition, time and category (on-topic or off-topic) was produced. Log-linear models were used to test for association between the three components.

### *2.4.3 VAS questionnaire analysis*

Mean questionnaire scores for each participant were calculated and a paired t-test used to determine the time effect within each condition. The difference between pre intervention and post intervention scores for each condition was calculated with an unpaired t-test to determine the treatment effect across conditions.

Additionally, a linear mixed effects model was fit for each individual question using the R package "lme4" (Bates, Maechler, Bolker & Walker, 2015). The purpose of this was to model the change in intercept and slope for standard practice and experimental practice participants, as well as explain the variability in scores. The use of a mixed effects model accounted for both random and fixed effects. The random effect was individual participant effect. Fixed effects were time and treatment as well as their interaction. It was assumed that participant scores were normally distributed. Basic diagnostic plots checked the underlying model assumptions.

### *2.4.4 Reliability*

Training in use of the correct procedures for both the coding system and on- and off- topic statement count was completed between the primary rater (rater A) and a second rater (rater B). For coding, training consisted of discussion of code descriptions and practice using examples of written and verbal discussion before independent coding occurred. Training for count of on- and off-topic statements

consisted of discussion of procedures and definitions of on- and off-topic statements. Rater A coded group responses and counted on- and off-topic statements from all transcriptions of recordings. After coding and count data was collected for all recordings, 20% were coded and counted by an additional rater (Rater B) to assess inter-rater reliability. To establish intra-rater reliability, a further 20% of transcription was re-coded and re-counted by the primary rater. Percent agreement and kappa statistic were used to assess inter- and intra-rater reliability of coding data. Strength of kappa statistic was determined by using the criteria established by Landis and Koch (1977). Reliability of the on-topic and off-topic statement count was determined through Pearson's chi-square test.

Reliability of coding data and on- and off-topic statement count was interpreted as follows. The strength of intra-rater reliability for the Plack et al. (2005) coding system was substantial, with a kappa value of .75 (range of .65 to .84) and a mean percent agreement of 80.73%. The strength of inter-rater reliability for coding was moderate, with a kappa value of .52 (range of .40 to .64) and a mean percent agreement of 60.44%.

Reliability of the on-topic and off-topic statement count was determined through Pearson's chi-square test. There was a significant probability detected that over two time points Rater A would count the number of on-topic and off-topic statements differently ($p < .05$). A significant probability that Rater A would count the number of on-topic and off-topic statements differently to Rater B was also detected ($p = .03$).

# 3. Results

## 3.1 Development of verbal reflective practice skills

A paired *t*-test compared the total number of higher level elements (one, four, six, and nine) pre versus post intervention for each condition. Statistical analysis detected no significant change to the number of higher level elements pre ($M$ = 3.5, $SD$ = 5.74) versus post ($M$ = 1.25, $SD$ = 1.26) intervention for the standard practice condition; $t(3) = .95$, $p > .05$. Similarly, statistical analysis did not detect a significant change to the number of higher level elements pre ($M$ = 7.75, $SD$ = 8.26) versus post ($M$ = 5, $SD$ = 2.94) intervention for the experimental practice condition; $t(3) = .93$, $p > .05$). This indicated that there was no significant change to either condition's higher level verbal reflective practice skills over time. An independent-samples *t*-test compared the number of higher level elements between the standard practice and experimental practice conditions. A similar number of higher level elements were observed in the standard practice ($M$ = -2.25, $SD$ = 4.72) and experimental practice ($M$ = -2.75, $SD$ = 5.91) conditions; $t(6) = -0.13$, $p > .05$).

Further statistical analysis with Poisson regression models for each individual element detected no significant differences between experimental practice and standard practice groups over time for low level (2, 3, 5, 7, 8) or high (1, 4, 6, 9) level elements (see Table 7, all $p$ values > .05). This indicated there was no significant change to either condition's higher level verbal reflective practice skills over time across time.

*Table 7. Analysis of Individual Elements*

| Element | Estimate | Standard Error | *z* Value | *p* Value |
|---|---|---|---|---|
| 1 | 22.81 | 7713.49 | 0.003 | 0.998 |
| 2 | -0.03774 | 0.85243 | -0.044 | 0.965 |
| 3 | 0.6931 | 1.4194 | 0.488 | 0.625 |
| 4 | 0.5878 | 0.9455 | 0.622 | 0.534 |
| 5 | 0.1082 | 0.6492 | 0.167 | 0.868 |
| 6 | -19.43 | 5675.63 | -0.003 | 0.997 |
| 7 | 0.3365 | 0.6499 | 0.518 | 0.605 |
| 8 | 0.5306 | 0.7166 | 0.74 | 0.459 |
| 9 | -18.9 | 5090.9 | -0.004 | 0.997 |

Table 7 shows the difference between experimental practice and standard practice pre-intervention and experimental practice and standard practice post intervention (estimate) for each element. In general, positive coefficients indicate the contribution of treatment over time for each element. Interestingly, elements 2, 6 and 9 show a negative estimate. This resulted from the count for each of these elements being higher at pre intervention than post intervention.

Figure 1 represents the composition of elements present for each condition pre intervention and post intervention. Higher level elements one, six and nine each made up less than 5% of the total elements present across all conditions and across all times. High level element four was more than 5% for both standard practice and experimental practice conditions pre and post intervention, despite a decrease in percentage over time for both conditions (standard practice 9% to 4%, experimental

practice 15% to 9%). Element 1 decreased from 2% at pre to 0% post for the standard practice group, while the same element increased from 1% pre to 5% post for the experimental practice group. Element 5 consistently comprised more than 25% of the total elements counted pre and post intervention for both conditions. A decrease in Element 5 was noted for each condition across time (standard practice 34% to 31%, experimental practice 31% to 26%).

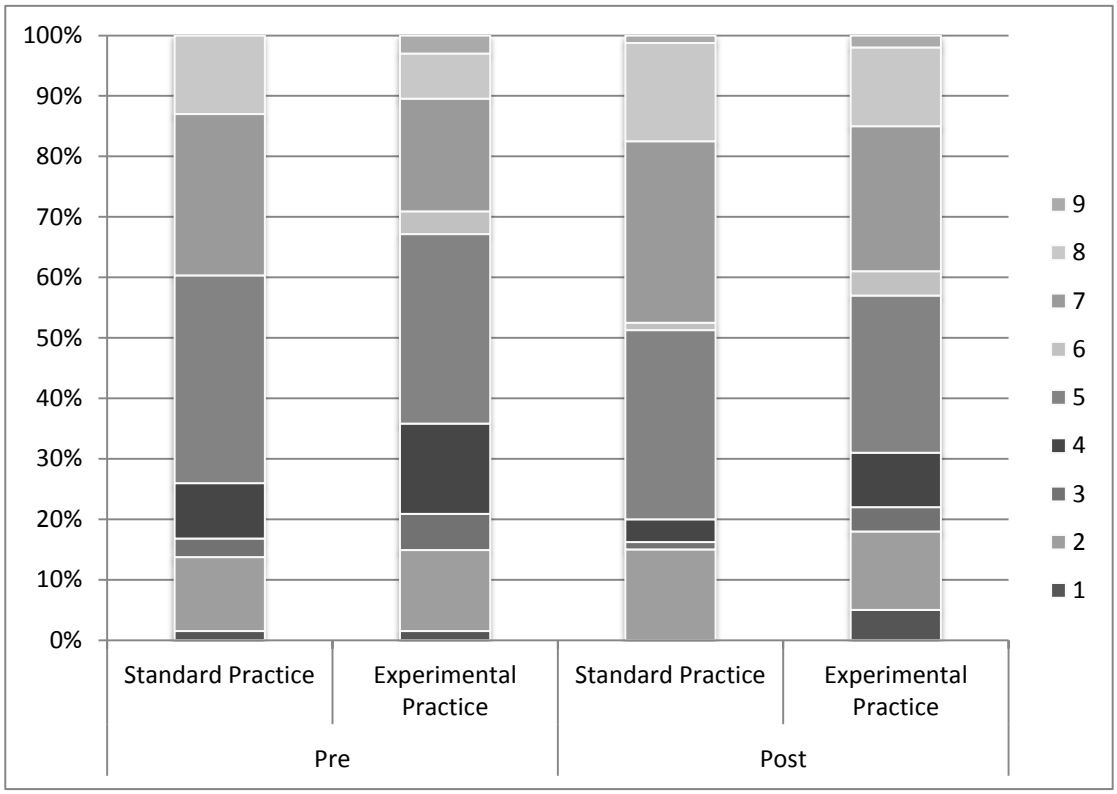



*Fig 1.* Percentage of various elements present pre and post intervention for both conditions.

Graphical exploration of the data allowed further descriptive interpretation. Figure 2 illustrates the total number of elements present between standard practice and experimental practice conditions pre and post intervention. The visual representation shows a noticeable decrease in the total number of elements for both standard practice and experimental practice groups from pre to post intervention.

This indicated that for both conditions over time, the total number of reflective elements decreased.

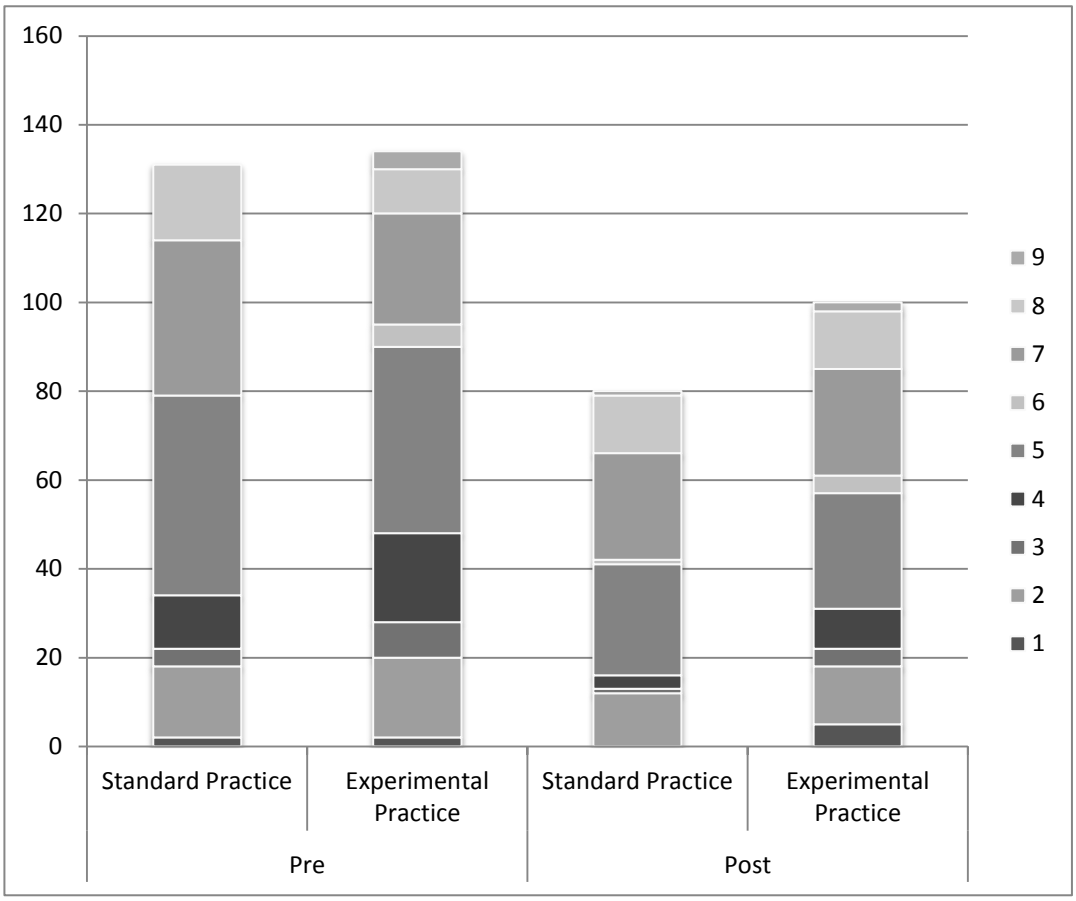



*Fig 2.* Total counts of elements pre and post intervention for both conditions.

### 3.2 Student perceptions of verbal reflective practice

A total of 24 students completed the VAS at both weeks two and six of the intervention period due to attrition. Response scores of 14 students were lost for 17 questions, due to a computing error. However, the statistical analysis employed is robust to allow for missing values. Figures 3a and 3b display the mean student response scores for standard practice and experimental practice conditions pre and post intervention. From these diagrams, it appears that while the mean VAS student score increase both conditions across time, the mean score for the experimental practice group increased more than the standard practice group.

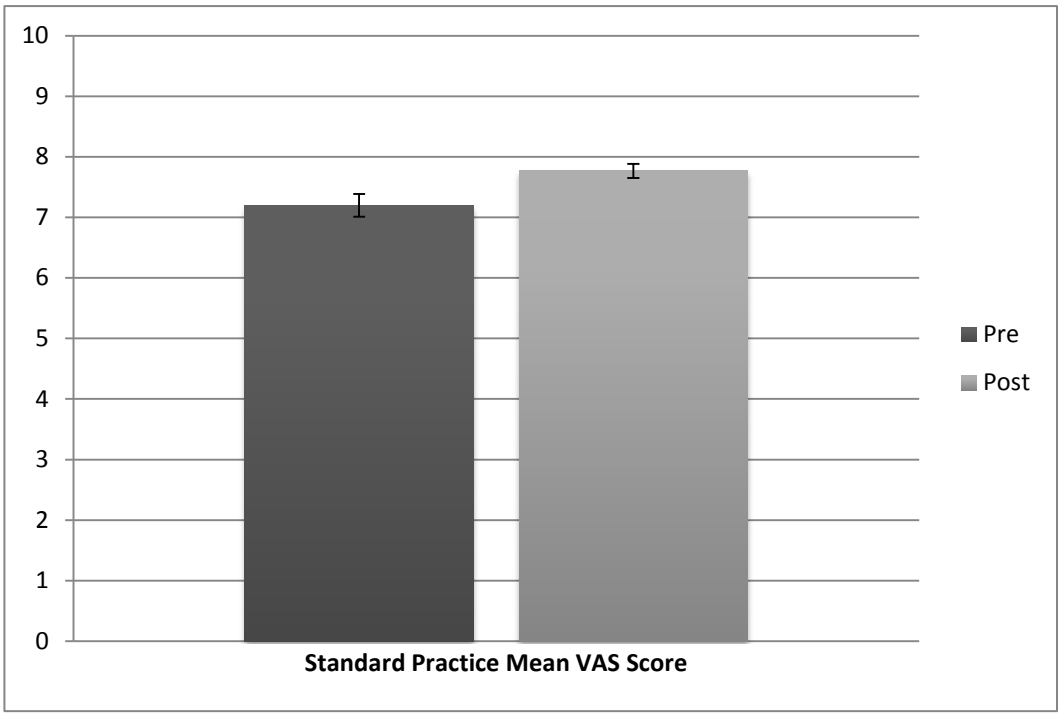



*Fig 3a.* Mean student score for standard practice group representing perception of reflective practice pre and post intervention. Error bars denote standard error.

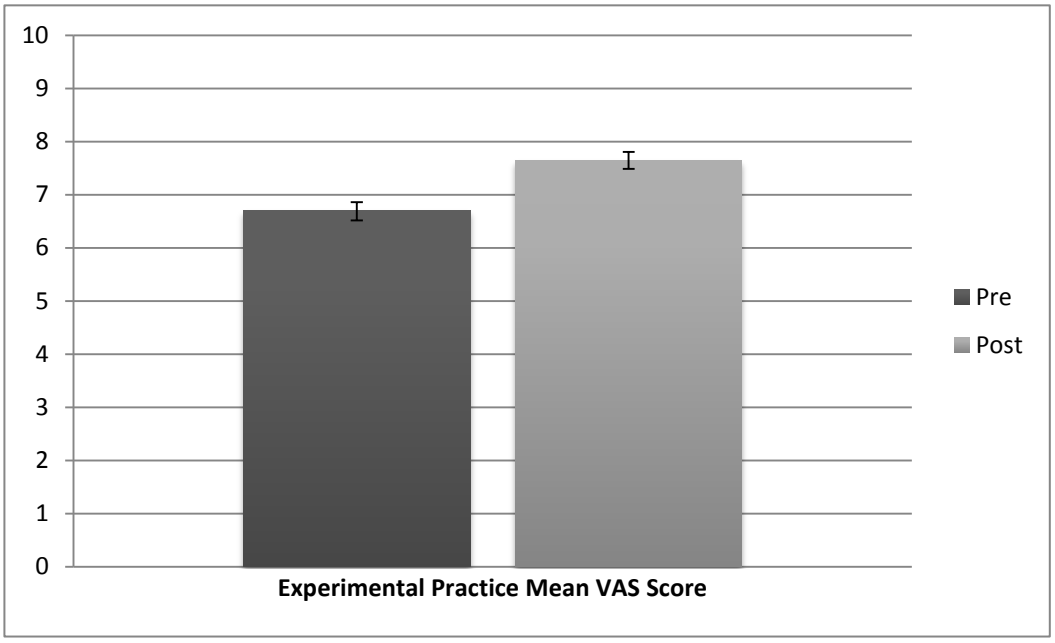



*Fig 3b.* Mean student score for experimental practice group representing perception of reflective practice pre and post intervention. Error bars denote standard error.

A paired *t*-test compared mean VAS scores pre versus post intervention for the standard practice group. Statistical analysis detected a significant change to the mean

VAS score pre ($M$ = 7.19, $SD$ = .85) versus post ($M$ = 7.82, $SD$ = .79) intervention for the standard practice condition; $t(24) = -4.35$, $p < .05$. A second one-tailed paired $t$-test to compare the mean VAS score pre versus post intervention for the experimental practice also detected a significant change to the mean VAS score pre ($M$ = 6.67, $SD$ = .93) versus post ($M$ = 7.64, $SD$ = .59) intervention; $t(24) = -8.01$, $p < .05$). This indicated that there was a significant change to both conditions' mean VAS score over time.

An independent-samples $t$-test compared mean VAS scores between the standard practice and experimental practice conditions. Analysis compared the difference in mean VAS score from pre to post intervention between conditions. Analysis detected a significant difference in the mean VAS score between the standard practice ($M$ = .57, $SD$ = .73) and experimental practice ($M$ = .95, $SD$ = .61) conditions; $t(46) = 1.77$, $p = .04$). The experimental condition showed a significant increase in mean student response score compared to the standard practice condition.

Individual analysis of questions revealed a significant treatment effect for three questions. Question 11 showed a negative treatment effect ($t = -2.25$, $p = 0.03$), as did Question 18 ($t = -2.21$, $p = 0.03$) and Question 25 ($t = -2.11$, $p = 0.04$). See Table 8 for a full list of questions and difference in mean questionnaire response pre and post intervention for each condition. A significant time effect was found for five questions. Question 3 showed a positive time effect ($t = 3.00$, $p < .05$), as did Question 4 ($t = 2.47$, $p = 0.02$), Question 6 ($t = 2.27$, $p = 0.03$), Question 7 ($t = 2.56$, $p = 0.02$) and Question 11 ($t = 2.31$, $p = 0.03$).

Table 8. *Student VAS Questions with Pre and Post Intervention Difference of Mean Response for Each Condition.*

| Q# | Question | Standard Practice Pre/Post Difference | Experimental Practice Pre/Post Difference |
|---|---|---|---|
| 1 | I am able to integrate information from different sources to make decisions when engaging in reflective practice. | 1.00 | 1.34 |
| 2 | I am able to apply new insights and knowledge to clinical situations. | 0.60 | 1.27 |
| 3 | I am able to link theory to practice in order to better understand clinical situations. | 2.31 | 1.32 |
| 4 | I am able to effectively explain my reasoning processes and thinking. | 1.83 | 0.40 |
| 5 | I am able to identify what I need to learn to make a decision about a client/clinical situation. | 1.28 | 1.48 |
| 6 | I am able to look at multiple points of view in clinical situations. | 1.32 | 1.12 |
| 7 | I am able to reflect on my clinical performance in relation to my clinical practice or COMPASS ® competencies. | 1.64 | 1.04 |

| | | | |
|---|---|---|---|
| 8 | I am able to identify strengths in my clinical skills. | 0.32 | 0.94 |
| 9 | I am able to identify weaknesses in my clinical skills. | 0.05 | 0.02 |
| 10 | I am able to use constructive feedback to improve my performance in clinic. | 0.34 | 0.45 |
| 11 | I am able to reflect on clinical experiences within the session. | 1.38 | 2.87 |
| 12 | I am able to reflect on clinical experiences following the session. | 0.31 | 0.89 |
| 13 | I am able to reflect on clinical experiences to plan for what I need to do differently in future clinical sessions. | 0.91 | 0.53 |
| 14 | I am able to reflect on a session and describe what has happened. | 0.34 | 0.57 |
| 15 | I am able to reflect on my clinical practice without feeling anxious. | 0.76 | 1.08 |
| 16 | I am able to recognise that the process of reflective practice helps to guide my clinical practice. | -0.20 | 0.13 |
| 17 | I am able to view reflective practice as an effective use of my time. | 0.77 | 1.71 |
| 18 | I am able to think about my clinical abilities in a positive manner after the process of reflection. | 0.83 | 1.32 |

| | | | |
|---|---|---|---|
| 19 | I am able to recognise that participating in reflective practice group develops my ability to reflect. | 0.39 | 1.21 |
| 20 | I am able to learn by hearing about my peers' clinical experiences. | 0.17 | 0.61 |
| 21 | I am able to engage in discussion within reflective practice groups. | 0.66 | 0.04 |
| 22 | I am able to recognise that having a facilitator to lead reflective practice group is helpful to my learning. | -0.38 | 0.62 |
| 23 | I am able to recognise that using games/activities in reflective practice group is helpful to my learning. | -0.82 | 1.28 |
| 24 | I am able to think about my clinical abilities in a positive manner after the process of reflection. | 0.44 | 0.96 |
| 25 | I am able to compare my clinical situation/experience with my peers' experiences. | -0.34 | 1.05 |

Student perceptions of reflective practice were further examined through count of on- and off-topic statements in discussion. The results indicate a decrease in on-topic statements and an increase in off-topic statements for both conditions over time and no difference that can be attributed to the condition. It was hypothesised that students in the experimental practice condition would perceive reflective practice more favourably than those in the standard practice condition, evidenced by a higher count of on topic statements and lower count of off-topic statements during discussion. Figure 4 illustrates the total number of on-topic and off-topic statements made by standard practice and experimental practice conditions pre and post intervention. The total number of off-topic statements noticeably increases for both standard practice and experimental practice groups from pre to post, with a greater increase in off-topic responses seen in the experimental practice group (60 at pre intervention to 179 at post intervention).

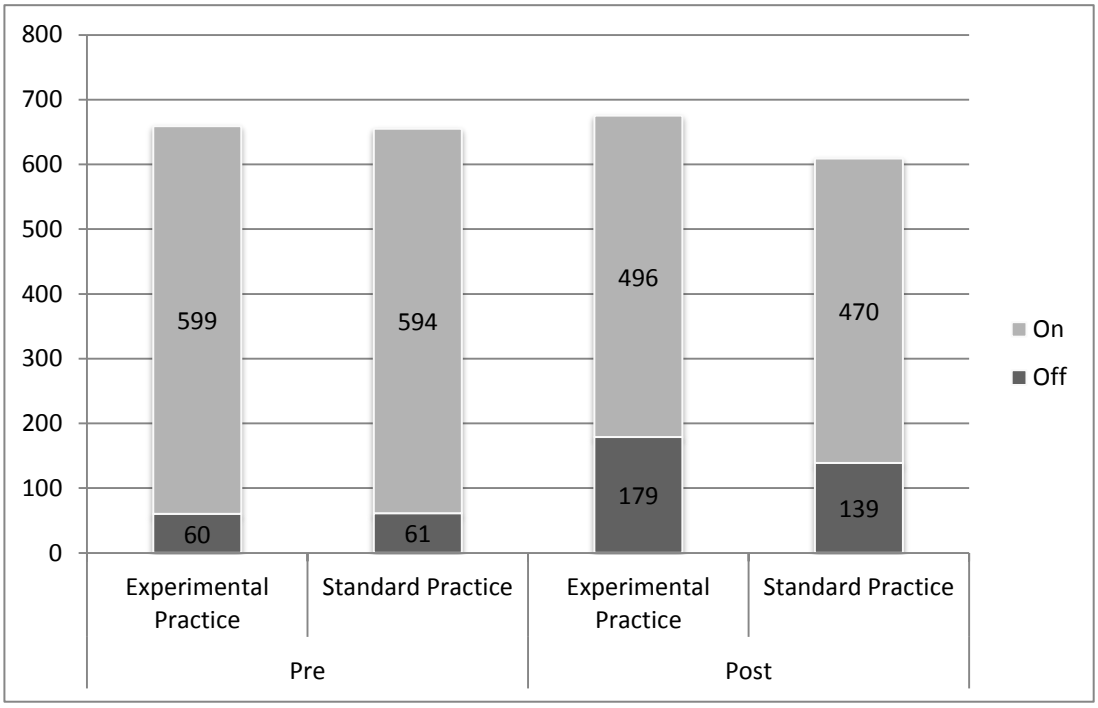



*Fig 4.* Comparison of number of on/off-topic statements pre and post intervention

The following models examined associations between condition, time and category (on-off-topic): Model 1) mutual independence between all three terms, 2) association between condition and category, both independent of time, 3) condition and category independent of each other, conditional on time, and 4) all pairwise associations. Table 9 shows the deviance (i.e., variability not explained by the model), degrees of freedom (df) and p value.

Table 9. *Deviance, df, Delta(dev) and p Value for Each Model*

| **Model** | **Deviance** | **df** | **Delta (Dev)** | ***p* Value** |
|---|---|---|---|---|
| *Model 1* | 119.09 | 4 | | |
| *Model 2* | 117.06 | 3 | 2.03 | 0.15 |
| *Model 3* | 2.37 | 2 | 114.70 | 0.00 |
| *Model 4* | 0.94 | 1 | 1.43 | 0.23 |

Model 2 does not detect significance in the association between condition and category ($p = 0.15$) as there is not enough explained deviance with the model compared to the total deviance. In Model 3 when category and condition are assumed independent but conditional on Time (pre and post), a significant amount of deviance ($p = 0.00$) is explained by the model. This suggests that while condition did not have a significant influence on increase of on-topic statements or decrease of off-topic statements, time did.

### 3.3 CE perceptions of verbal reflective practice

The results of the VAS questionnaire indicated a significant change in CE perceptions over time for the standard practice condition however no significant

change was detected for those in the experimental practice condition. A between conditions comparison did not detect a significant difference between CE perceptions in the two conditions. It was hypothesized that CEs of reflective practice groups using an experimental practice approach would report more positive perceptions of groups than CEs using the standard practice approach however the opposite results were detected. A total of six CEs completed the VAS at both weeks two and six of the intervention period (100% completion). Response scores of some CEs were lost for questions two, three, four and five, due to a computing error. However, statistical analysis methods selected for individual questions accommodated for this loss.

Figures 5a and 5b display the mean questionnaire response score for standard practice and experimental practice CEs pre and post intervention with standard error.

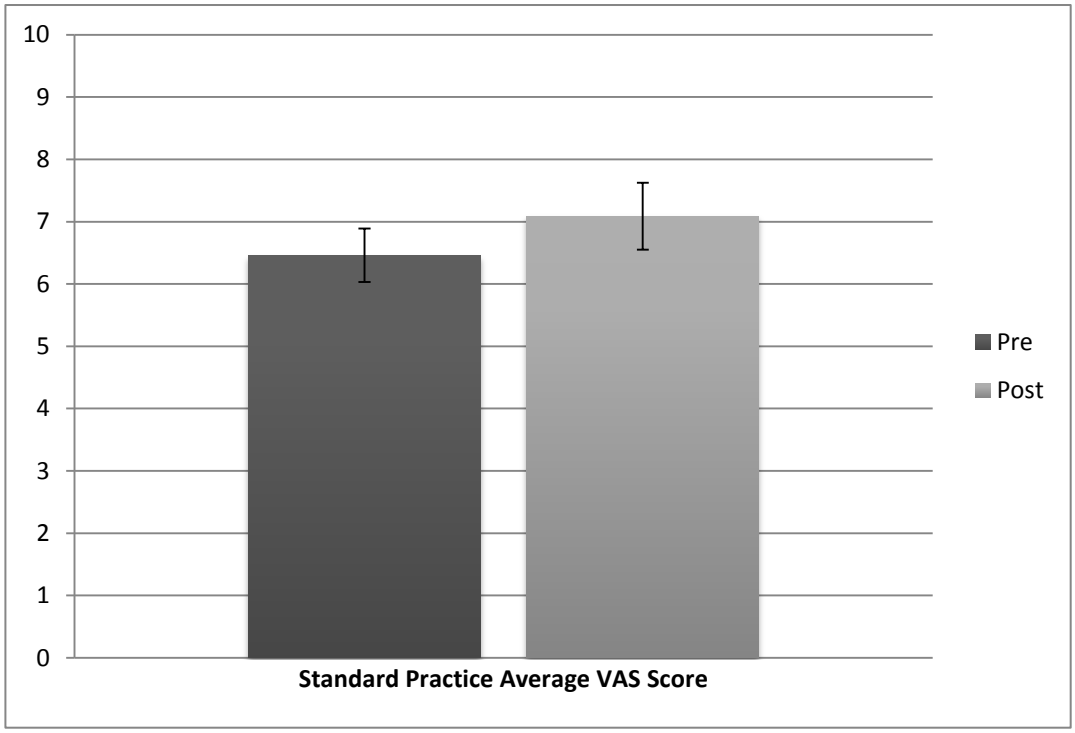



*Fig 5a.* Mean VAS score for standard practice CEs representing perception of reflective practice pre and post intervention. Error bars denote standard error (pre = .43, post = .54).

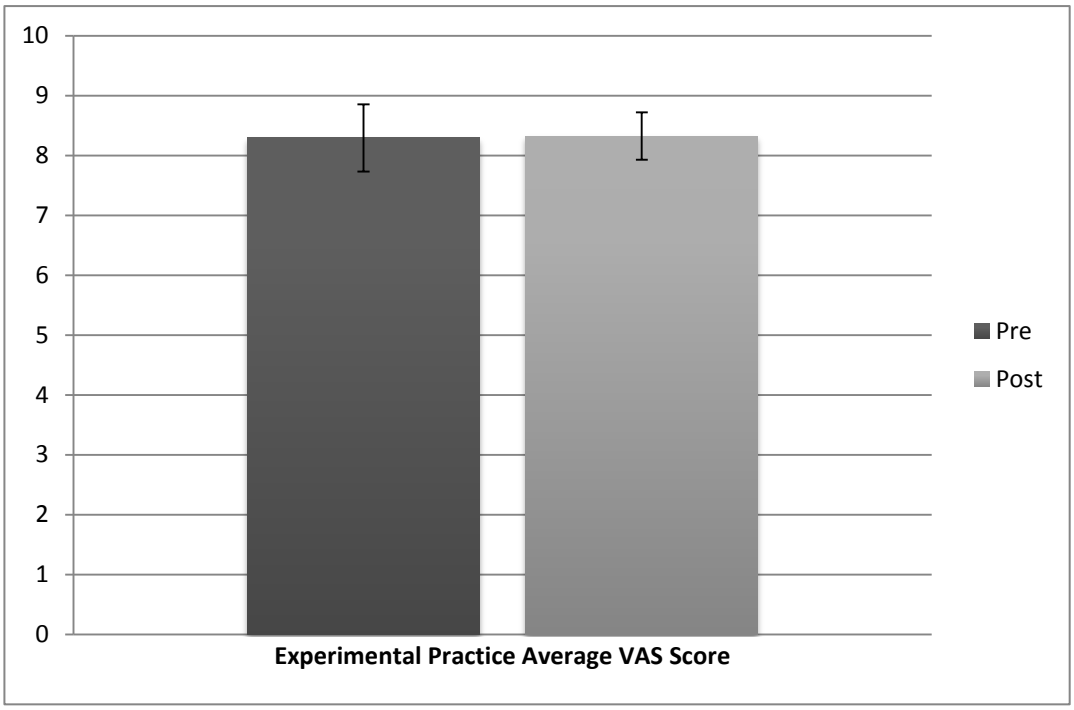



*Fig 5b.* Mean VAS score for experimental practice CEs representing perception of reflective practice pre and post intervention. Error bars denote standard error (pre = .56, post = .40).

A paired *t*-test compared the mean VAS score pre versus post intervention for the standard practice CEs. Statistical analysis detected a significant change to the mean VAS score pre ($M$ = 6.71, $SD$ = 1.29) versus post ($M$ = 7.47, $SD$ = 1.61) intervention for the standard practice CEs; $t(8) = -2.13$, $p = .03$). A second one-tailed paired *t*-test to compare the mean VAS score pre versus post intervention for the experimental practice CEs did not detect a significant change to the mean VAS score pre ($M$ = 8.60, $SD$ = 1.69) versus post ($M$ = 8.80, $SD$ = 1.19) intervention; $t(8) = -0.60$, $p = .28$ ). This indicated that CE mean score increased significantly for those the standard practice condition over time, while there was no significant change to mean VAS score for the experimental practice CEs.

An independent-samples t-test was conducted to compare the mean VAS scores between the standard practice and experimental practice condition CEs. An

independent t-test was conducted to compare the difference in mean VAS score from pre to post intervention between CEs in each condition. Analysis did not detect a significant difference in the mean VAS score between the standard practice CEs ($M$ = .76, $SD$ = 1.06) and experimental practice CEs ($M$ = .20, $SD$ = 1.03) conditions; $t(16) = -1.12$, $p > .05$ ). The standard practice CEs did show a greater increase in mean questionnaire response score compared to the experimental practice group however this was not significant.

Analysis at individual question level revealed zero significant differences between standard practice CE and experimental practice CE responses when accounting for time effect, treatment effect and interaction of time and treatment.

# 4. Discussion

This study examined the development of speech-language therapy students' verbal reflective practice skills within group settings across two conditions: standard practice and experimental practice. The purpose was to determine how students' verbal reflective practice skills developed within a group setting and students' perceptions of reflective practice in a standard practice versus experimental practice condition. Additionally, the study aimed to document the perceptions of CEs facilitating the groups and whether those facilitating an experimental practice condition held more positive perceptions of reflective practice than CEs in the standard practice condition. The results detected no difference in the development of students' verbal reflective practice skills between groups. Pre- and post-intervention comparisons detected a significant change in student perceptions of reflective practice in both conditions and between conditions comparison of student perceptions detected significant differences between conditions. A significant increase in perception was detected for clinical educators in the standard practice, however not for the experimental practice condition. CEs in the standard practice and experimental practice conditions exhibited similar results on the VAS questionnaire, with no significant differences in perceptions detected. The findings are discussed below along with some possible clinical implications for verbal reflective practice groups, the limitations of the current study, and suggestions for future research.

## 4.1 Development of verbal reflective practice skills

In contrast to the study hypotheses, high level reflective practice skills - as viewed through the coding of verbal reflective practice within a group setting -did not change over time. Similarly, the use of a standard practice condition had no

significantly different influence on the development of reflective practice skills compared to the use of an experimental practice condition. This differed from the hypothesis that the use of an experimental practice approach would develop reflective practice skills to a greater extent than the standard practice approach, evidenced by greater increase of higher level reflective elements. These findings were also in contrast with the results of prior studies (Cook et al., 2014; Davies, 1995; Durgahee, 1996; Smith, 1998; Wong et al., 1997) that support the development of reflective practice skills over time. Cook et al. (2014) used this system to examine the development of reflective practice skills over time and detected a significant change in higher level reflective elements over time. Therefore it was anticipated that use of this coding system in the current study would also reveal changes over time. However, there were two main differences between this study and previous studies. The first main difference was that the current study used a coding system to assess students' *verbal* reflective practice skills rather than written reflective practice skills. The second main difference was that the current study applied the coding system to assess reflective practice at a group level rather than an individual level. The nature of reflective practice within a group setting and the process of reflective practice specific to a group context meant that assessment of skills at a group level was necessary. Within group reflective practice, students often reached conclusions together, through contribution of perspectives on a single topic and finishing of one another's sentences to reach consensus on a subject. This meant that it was difficult to assign codes to one individual for evidence of reflection, when the process involved the contribution of multiple students. Although the procedures for coding outlined by Plack et al. (2005) were followed, and substantial intra-rater and moderate inter-rater reliability was found, it is possible that the coding system as it currently stands is not a suitable tool

to assess the development of verbal reflective practice skills within a group setting. While the coding system defined by Plack et al. has been found to be a valid and reliable assessment of individual written reflective practice skills, this study attempted to apply the same coding system to verbal reflective practice in a group setting. It is possible that elements unique to verbal discussion such as unspoken but shared knowledge or context were not accounted for by the coding system. In written reflection, the author is required to describe the event fully as the reader may not know the background of the experience. In contrast, students in group discussion tended to refer to events from earlier weeks and did not provide a full description of the experience. During the coding process it was clear to the rater that those in the group knew the experience an individual was referring to by the use of phrases such as, "I had the client that we talked about last time," and affirming group responses such as "Oh that's right." However, it was difficult for the rater to award a code such as return to experience, reflection on action, or re-evaluates as the student did not describe the experience in full. Because of these difficulties in interpretation and awarding of codes, the complete breadth of students' reflective practice skills may not have been documented.

In addition, the lack of significant change in reflective practice skills may be related to the study timeframe. The current study assessed development over the relatively short time frame of six weeks. Earlier studies have included longer development periods – e.g., 37 weeks (Duke & Appleton, 2000) or 12 months (Boyd, 2008). However, the Cook et al. (2014) study using the Plack et al. (2005) coding system was conducted over a six week time span and reliably demonstrated development of written reflective practice skills over time. It is possible that individual written reflective practice employed by Cook et al. developed at a faster

rate than verbal reflective practice within a group setting due to the following factors: Written reflective practice allows more time for students to contemplate and reflect on clinical experiences which are then crafted into written form. Also, students received regular feedback from CEs on written reflections, guiding and prompting them to expand on concepts in future written work. Conversely, verbal reflective practice in a group setting consists of un-finished phrases, sentence revisions and interruptions/contributions from other members of the group. Students were therefore not given the same opportunities to fully form and present ideas as in written reflective practice and through this were possibly less practiced in the formation of complete ideas. Within a group setting, students may have been prompted in the moment to expand on statements however specific feedback was not given by CEs on how they could verbally reflect in future. Other factors observed in the current study such as the contributions of group facilitators and development of group dynamics (Forsyth, 2014) may have also influenced the development of verbal reflective practice skills within a group setting. While a training period for CEs was implemented in an attempt to control for this possibility, individual differences in facilitation style (e.g., prompting students for expansion versus no prompting, spending more time on ideas, recasting students' statements in order to encourage expansion versus providing personal examples of their own clinical experiences), may have influenced the development of students' reflective practice skills

A further possible explanation for the lack of difference across conditions may have been similarities between groups. Firstly, both the standard practice and experimental practice groups involved group discussion of some form. Group discussion has been reported to benefit reflective practice skill development in ways that individual reflection does not (see, Clouder, 2000; Forsyth, 2013; McKinlay &

Ross, 2008; Osterman & Kottkamp, 1993; Seymour & Watt, 2015; Schaub-de Jong et al., 2009; Schaub-de Jong et al., 2011). While no significant changes in development of reflective practice skills over time were noted for either condition, it is possible that the lack of difference between conditions was due to the presence of other students for exchange of ideas and opinions. Secondly, while the discussion component of each group was different (unstructured versus structured), groups in both conditions were run according to the Brookshire (2003) session organisation format (i.e., they remained unchanged from week to week). Structuring reflective practice has been reported as a method for supporting the development of reflective practice skills (Johns, 1994), and it is possible that the consistent format each week was enough to support development of skills in both conditions. While the current study found no significant improvements in reflective practice skills for either condition, the value of group discussion within a structured format should not be dismissed at this stage as a viable tool for facilitating and developing students' verbal reflective practice skills.

Another notable finding relates to the development of higher level reflective practice skills specifically. Exploration of the reflective element data showed that in each condition, higher level elements (one, four, six, and nine) made up a lower percentage of the total elements present at both pre and post intervention time points. This suggests that regardless of condition, students were less likely to exhibit higher level reflective practice skills, evidenced by the presence of higher level elements. These findings are congruent with previous findings (Cook et al., 2014; Duke & Appleton, 2000; Hill et al., 2012; Plack et al., 2005) who found that higher level reflective practice skills are harder to achieve. It has also been found that reflective practice skills develop over time however have noted that development of skills indicative of critical reflection can be less evident (Boyd, 2008; DeGroot et al., 2013;

Duke & Appleton, 2000; Hill et al., 2012; Plack et al., 2005). The presence of higher level elements would have indicated a higher level of reflective practice skill which was not seen in either condition. Duke and Appleton suggested that these higher level skills are not only more difficult to achieve, but also may take longer to develop. However, these findings are in contrast to the results of Cook et al. (2014) who did see evidence of high level elements in a portion of the participants of their study. Participants were students at the same stage of their undergraduate degree as those in the current study. It is important to note that students in the Cook et al. study received specific feedback on their reflective practice, with the intent of developing skills to higher levels. While the CEs in the current study were instructed to prompt students to engage in further discussion, they did not offer process specific feedback to students at any time point, which may explain the difference in results.

### 4.2 Student perceptions of verbal reflective practice

The second hypothesis of the present study was that the use of an experimental practice approach would develop students' verbal reflective practice skills to a greater extent than the standard practice approach. It was anticipated that those in the experimental practice condition would rate themselves higher on a VAS questionnaire than students in the standard practice condition, suggesting that they perceived their level of reflective practice skill to be more advanced. Findings of the study supported the hypothesis, with a significant difference in the increase of mean VAS score detected between the standard practice and experimental practice conditions. The mean student score for the questionnaire was also seen to increase significantly over time for both the standard practice and experimental practice conditions.

The significant difference detected between experimental practice and standard practice VAS scores may be attributed to the structured activities and prompts used in the experimental practice condition. When using a structure or model to facilitate reflection, it is important to follow through the entire process (McDougall & Comfort, 2013) as this contributes to rich, well-rounded reflection. CEs in the experimental practice condition were specifically instructed to ensure that all prompts were covered within the discussion period. The prompts were written to encompass all of the Plack et al. (2005) nine reflective elements for breadth of reflection. Through all prompts being presented, students had the opportunity to reflect on all nine elements therefore completing the whole process of reflection. CEs in the standard practice condition may have missed the opportunity to prompt or reveal certain elements as they did not have specific prompts that provided these opportunities. This may have contributed to the significant difference in experimental practice condition questionnaire scores compared to the standard practice condition however it is interesting to note that this did not have the same positive effect on the development of reflective practice skills as measured by the Plack et al. coding system.

The format of the discussion component within reflective practice groups may have been a contributing factor to the significant difference in VAS perception scores between the experimental practice and standard practice conditions. While reflective practice groups in both conditions were run in a format that remained unchanged from week to week using Brookshire's (2003) organisation framework , the discussion component was either structured (experimental practice) or unstructured (standard practice). This meant that the discussion in the standard practice condition often flowed in a different way each week. It is possible that the unstructured discussion

challenged students in the standard practice condition to contribute more spontaneous thought versus the experimental practice condition which included prompts for discussion. It is suggested that the challenge provided to students in the standard practice condition had a negative impact on student discussion, in that the students in the standard practice condition required a more supportive framework. The difference in development of reflective practice skills may be a result of the experimental practice condition being a more supportive style, which gave students an appropriate framework for reflection and consistently elicited discussion related to the prompts. The consistency of the discussion format each week may have also allowed the students to become familiar with the style of activities, coming to expect the same type of discussion each week. The results suggest that as students in the experimental practice condition were better supported in discussion, and became more familiar with the style of the activities each week, as a group they perceived that they were more capable and better equipped to engage in discussion than the students in the standard practice condition. This perceived increase in capability and therefore confidence may have contributed to the significant difference in questionnaire scores.

The results of the current study showed that the mean VAS student scores increased significantly over time for both conditions. Additionally analysis at the level of individual questions detected a significant time effect for five questions. These results suggested that regardless of condition, students' overall self-assessment of their reflective practice skills increased over time in addition to five specific skills highlighted by questions that saw a significant time effect. Reflective practice skills encompassed by these questions were matched to skills found in other literature to develop over time such as linking theory to practice, explaining thought processes, viewing multiple perspectives, and reflecting on performance. The development of

these skills over time reflects results reported in previous literature (de Groot et al., 2013; Duke & Appleton, 2000). These skills have been reported to develop over time in a variety of modes and contexts such as written reflective practice in nursing and veterinarians in group discussion. This phenomenon was reflected in the development of skills over time for both conditions, which suggests that specific reflective practice skills may develop regardless of the context of reflection.

At the level of individual question analysis, a significant negative condition effect was detected for three questions, suggesting that the experimental practice had a negative influence on student responses for specific questions (Questions 11, 18, and 25). It was proposed that these questions related to student perceptions of their reflective practice skills and the reflective practice groups themselves. A negative condition effect indicated that those in the experimental practice condition actually felt less positive towards those questions; whether this is was a direct result of the experimental practice condition remains unclear. Other factors such as timing of groups (as discussed earlier) may have also influenced the decrease in response scores, however if this was the case a decrease in scores for the students in the standard practice condition would also be expected. It is possible that this effect was as a result of the higher degree of structure imposed in the experimental practice condition. While structure has been reported to stimulate reflection (McDougall & Comfort, 2013) it also has the potential to restrict creative thought during reflection and may hinder the process (Johns, 2005). Students in the experimental practice condition may have felt that by having specific prompts they were required to respond to, creative thought and contribution was limited. Negative feelings towards the activities and prompts would likely impact students perceptions that they could use the group to reflect and compare experiences with peers. Certainly, if students felt that

the activities and prompts imposed a structure that inhibited spontaneous discussion, then it is likely that they would have viewed the process of reflective practice in a less positive light. It is proposed that it is important to balance structure and creativity within reflective practice groups to ensure that students feel able to discuss a wide range of concepts while being supported in the process.

The second hypothesis of the study was further explored through the count of on- and off-topic statements. The results indicated a significant change for both conditions as a result of time and no difference that could be attributed to a condition effect. These results were contrary to the hypothesis that students in the experimental practice condition would hold better perceptions about reflective practice groups and their reflective practice skills, compared to those in the standard practice condition. Despite the hypothesised supportive influence of games and structure to improve student engagements and perception of reflective practice, the results showed that regardless of approach, both conditions saw a decrease in on-topic statements and an increase in off-topic statements over time.

The significant finding that the number of on- and off-topic statements changed in both conditions over time may have been influenced by the timing of groups. Reflective practice groups ran over the course of a six-week university term. A decrease in the number of on-topic statements and increase in the number of off-topic statements over time may be due to the final group occurring on the last day of the university term. Mean VAS scores were noted to improve over time for both groups however the increase in the number of off-topic statements suggests an opposite effect. While the students reported feeling more positive about reflective practice in the VAS questionnaires, it is possible that their actions at the post-intervention measure did not reflect these feelings. This may be an example of

espoused theory versus theory-in-use (Argyris & Schön, 1974) where students reported positive perceptions of reflective practice, but in reality exhibited behaviour that suggested otherwise (an increase in the number of off-topic statements). Despite having reported favourable perceptions towards reflective practice, it is reasonable to expect that at the end of the university year, students may have been less likely to engage in on-topic discussion as clinical practice was drawing to a close. Although students may have reported positive perceptions towards reflective practice, in reality the paucity of relevant experiences to discuss and increase in assignments due at this time of year may have revealed less favourable perceptions in practice.

Between group differences were expected however no significant differences in the number of on- and off-topic statements were detected. It was expected that the variety of activities and prompts for discussion in the experimental practice condition would lead to more positive perceptions of reflective practice for students in that condition than those in the standard practice condition. Because of the variability among the activities and prompts, it was anticipated that those in the experimental practice condition would view reflective practice groups more favourably and therefore be more likely to engage in on topic discussion (Mastergeorge, 2009). Students tend to feel that reflective practice is compulsory and unenjoyable but the use of activities that vary from week to week can reduce these feelings (Gray, 2007). In light of this, the groups in the experimental practice condition were given a different activity and set of prompts which were used to facilitate discussion. While it would be reasonable to expect that reflective practice groups involve some degree of off topic discussion about classes, assignments or un-related topics such as weekend plans however it was expected that the addition of activities and prompts for discussion would reduce this. The results suggest that the use of structure in the

experimental practice condition did not engage the students in more on-topic discussion than the standard practice condition. While the positive effects of games and structure that have been reported may be valid, other factors such as student self-awareness, quality of facilitator, and timing of groups are proposed to have had an influence on student perceptions towards reflective practice in the current study.

The lack of significant difference in the number of on- and off-topic statements between conditions may have also been influenced by the fact that all students were aware that they were taking part in the study and that their reflective practice groups were being audio-visually recorded. It is suggested that this awareness may have increased the amount that students remained on-topic, as they were aware that the researcher would be listening to the discussion at a later time and perhaps felt that they were being watched or judged for their contributions to the discussion. The knowledge that their discussion would be listened to by an external observer may have lead students to remain on-topic more than if no one would be listening.

### 4.3 CE perceptions of reflective practice

The study found that CEs in the standard practice condition significantly improved perceptions over time; however while the perceptions of those in the experimental practice condition improved, this was not significant. A between conditions comparison did not detect a significant difference in CE perceptions. These findings were unexpected, as it was hypothesized that CEs in the experimental practice condition would report more positive perceptions of groups than CEs using the standard practice approach.

The significant change over time for the CEs in the standard practice condition may have been influenced by the guidelines specific to each condition. CEs in both

conditions were given constraints on how to facilitate reflective practice groups, such as lead-in and closing statements for discussion, and specific phrases to prompt student contribution. The guidelines for the CEs in the experimental practice condition were more constricting than those in the standard practice condition, as each structured activity was intended to be run in a specific way. The CEs in the standard practice condition may have felt that they were less restricted in their roles than those in the experimental practice condition, and therefore held more positive perceptions towards reflective practice groups.

The lack of change reported by CEs in the standard and experimental practice conditions may be accounted for by the fact that CEs acted as facilitators as a requirement of their post-graduate coursework. The majority of the discussion was completed by the students, while the CEs role was to guide or prompt as necessary. This limited role may have influenced how the CEs in both conditions perceived reflective practice groups. It is possible that they felt they were simply completing an academic component, and failed to recognise the benefits of reflective practice groups for themselves such as exposure to new ideas and strategies being used by students. This phenomenon has been reported in students (Gray, 2007) however has not yet been reported in CEs. While students also engaged in reflective practice groups as a course requirement, they were able to discuss clinical experiences and receive beneficial input from their peers. Conversely regardless of condition, CEs may have felt that they did not gain anything from reflective practice groups as their role was only to listen and prompt students' reflective practice. This was common between both conditions therefore it is reasonable to assume that CEs may have held less positive perceptions regardless of the approach being used.

Despite receiving training and guidelines for the facilitation of groups, observation of the video recordings revealed that CEs in both the standard practice and experimental practice conditions exhibited different behaviours and styles of facilitation. This is understandable as every CE brought a different clinical and personal background to the study, and it is fair to assume that each facilitator provided positive contributions to groups specific to their individual facilitation style. However for the purpose of research, individual styles and contributions may have impacted negatively on research findings. While all facilitators followed the Brookshire (2003) format, there were obvious differences among each facilitator. One facilitator in the experimental practice condition followed the written guidelines closely, to the point that students came to expect the lead in or closing statement, joining in with the CE in saying the statement verbatim. Conversely, another facilitator in the experimental practice condition would lead in or close the discussion time clearly but with their own statement such as "Okay we're going to stop here because we're not really getting anywhere." It seems that despite clear guidelines and the provision of specific lead in and closing statements, each CE brought their own style to the group. This individual style of facilitation may have influenced the CEs perceptions of how the groups ran.

It is also important to highlight the differences of group dynamics, which according to Forsyth (2014) forms differently for every group. Each individual contributed different expectations, opinions and behaviours to a group which influenced group cohesion and success. CE perceptions of their group would certainly have been biased by how their particular group behaved, and whether the group dynamics developed to form a cohesive and productive group. Individual student behaviours and attitudes toward reflective practice should be considered when forming reflective practice groups as group dynamics and cohesion can impact the

experience for all involved, including the facilitator of the group. Future research may wish to examine the relationship between student behaviours such as the number of on- and off-topic student responses, and CE perceptions of reflective practice groups.

It is difficult to compare the results of the CE questionnaire to other findings as previous literature has commonly reported on student perceptions of reflective practice (e.g., McGrath & Higgins, 2005; McVey & Jones, 2012) rather than the perceptions of those facilitating group discussions. Furthermore, it is difficult to compare the results found in the current study to other research as the majority of literature that relates to facilitation of group discussion has focused on the processes of facilitation (e.g., Brookfield, 2005; Collison, Elbaum, Haavind & Tinker, 2000; Kienle & Carsten Ritterskamp, 2007; Loughran, 2002) rather than the perspectives of those who facilitate. The results of the current study however may be useful for the development of facilitator guidelines as the role of the facilitator is an important factor in group discussion.

While the development of reflective practice skills over time was expected based on previous literature, no significant differences were detected between and within conditions in the development of students' reflective practice skills over time, a number of different explanations have been suggested to explain these findings. For example, it is possible that the group context developed students' reflective practice skills regardless of condition, or that the assessment tool used did not assess the full breadth of reflective practice skills. Conversely, significant changes over time were noted in students' self-assessment of reflective practice through a VAS questionnaire, as well as significant differences between groups on this measure. The perceptions of CEs facilitating reflective practice groups were also documented, and the perceptions those in the standard practice condition increased significantly over time while no

significant change was detected for those in the experimental practice condition. There was no significance detected between groups on this measure. The results highlight the need for further assessment of verbal reflective practice within a group setting, with careful consideration of the assessment tool. Assessment of student and CE perceptions may also reveal important information that is not detected by objective analysis through the use of a coding system.

### 4.4 Clinical implications

The findings of the current study reveal some important clinical implications for students and CEs in the area of verbal reflective practice. Firstly, the students in the experimental practice condition that involved the use of structured activities and prompts showed significantly different responses on a VAS questionnaire compared to those in the standard practice condition. While the results of coding using Plack et al.'s (2005) system did not detect any differences between the development of reflective practice skills, the development of student perceptions is important to recognise. It is suggested that the use of structured activities and prompts should be implemented in reflective practice groups as a part of clinical education for speech-language therapy students. Improving students' perceptions of reflective practice groups through the use of structured activities and prompts may reduce any negative feelings or student reluctance to engage in the process. Additionally, the presence of prompts that CEs can use to structure discussion may also help to foster positive facilitator perceptions of how they are actively assisting students to use higher level reflective practice skills such as premise, content, and re-evaluates within a group setting.

Secondly, the development of reflective practice skills over time should be carefully monitored and supported. As discussed, it is proposed that written reflective practice skills may develop at a different rate than verbal reflective practice skills, as a result of different influencing factors such as the time available for formation of ideas and the provision of feedback from a CE. CEs may need to be aware of the various influences on the developmental of written and verbal reflective practice so they can set realistic expectations and appropriate guidelines for students. CEs in the experimental practice condition were not aware of the elements being targeted by each prompt, so they could not direct students to expand on responses in order to exhibit a skill for example. However, it is possible that if CEs were provided the prompts with information on the specific reflective practice skills being targeted by each prompt, they could use this information to encourage expansion of statements and guide students to reach higher level reflective practice skills in group discussion.

Finally, the influence of recording and timing of discussions should be taken into account for clinical educators planning a series of reflective practice groups. Care should be taken to ensure that students feel free to discuss topics openly, and that the influences of external factors such as time of week/year and academic workload are minimised. Students can be at risk of developing negative feelings towards reflective practice as seen in the negative effect on specific questions in the VAS, viewing it as a compulsory component of coursework that is being monitored by CEs. It would be beneficial to consider the timing of group sessions so that students do not feel as though attending a reflective practice group is taking away valuable time from other aspects of coursework. It is possible that students require a base level of understanding of reflective practice and its purposes in order to feel that it is a beneficial use of their time. It may be the responsibility of the CE facilitating

reflective practice groups to reinforce the rationale for groups in order to remind students of the purpose and benefits of reflective practice. It is important that students maintain a positive perception towards reflective practice groups in order to realise the benefit of the process. While it is the responsibility of the student to take control of their learning, within a group discussion it is also the responsibility of the facilitator to support learning (Kienle & Ritterskamp, 2007).

### 4.5 Limitations

This study is limited to a small sample size of speech-language therapy students in their third year of an undergraduate programme. It is important to note that interpretation of data was tentative due to the small sample size. The small amount of reflective element count data meant that the assumption of normal distribution was difficult to review. Future studies could code at the level of individual participants rather than at the group level. Increasing the number of groups in each condition (and therefore the overall number of participants in the study) would also increase the amount of data available.

One limitation of the current study was that there was no way to blind CEs to assignment of groups. As all CEs were taking part in the same post-graduate course it was not possible to restrict them from talking to one another about the structure of their reflective practice groups which may have influenced the manner in which each CE facilitated their group. The chance of CE discussion was minimised through separate training sessions for standard practice and experimental practice CEs, with specific instruction that they were not to discuss the groups with CEs in the other conditions. One way to approach this limitation in future may be to run the study over a longer period of time e.g. twelve weeks, which would change the overall study

design. All CEs would run reflective practice groups as per standard practice for half of the study period, and experimental practice for the remaining half. All CEs would be running groups under the same constraints and therefore would be less affected by another CE facilitating a group in a different manner.

The reflective element count data contained multiple dependencies, some of which were not able to be modelled. For instance, a basic count of elements present within each group did not take into account the individual effect. This meant that it was not possible to determine whether the presence of a particular element was due to multiple individuals within the group, or the same person contributing that element each time. It is important to note that the reflective element count data was split into nine subsets at an element level to reduce element dependency e.g. the presence of correlated elements and to simplify analysis. This method meant that results could not be linked for interpretation however the purpose of the study was to determine the change in presence of elements only, not the correlation of elements. Future studies that wish to examine the correlation between reflective elements could explore this with a visual representation such as a cluster dendogram.

Another limitation of the current study was the use of non-validated questionnaires. While other studies (e.g., McGrath & Higgins, 2005) have used questionnaires on the topic of reflective practice, none were available that fit the purposes of the current study. For this reason, the student and CE questionnaires were developed by the author and study supervisors for the direct purpose of the study. Both questionnaires used in this study were reviewed for relevance and ability to be understood however time constraints meant that validation of each questionnaire was not possible. The use of non-validated questionnaires may have influenced the results, as multiple questions may have been seen as similar, or assessing similar areas.

Response values may have been more heavily weighted by these similar questions. The use of structured activities and prompts to guide reflective practice within a group setting is also a relatively new field, and therefore activities and prompts were developed to suit the specific needs of the current study. Measures were taken to produce activities and prompts of a high quality, such as using the McAllister and Lincoln (2004) prompts which have been suggested to assist the development of written reflective practice skills (Cook et al., 2014) as a starting point for development of the final prompts. However, similarly to the VAS questionnaires, the validity of the activities and prompts was unable to be tested due to time constraints. Future studies could examine and develop the validity of a reflective practice questionnaire for students and CEs, as well as structured activities and prompts for use in group reflective practice.

Finally, the results of the on- and off-topic statement count were interpreted cautiously, as inter- and intra-rater reliability measures suggested a significant probability that raters would count the number of on- and off-topic statements differently. Further refinement of on-topic and off-topic statement definitions and procedures for counting should be completed should this method be used to assess students' verbal reflective practice within group settings in future.

### 4.6 Future directions

The current study highlights various areas for future research. Firstly, there has been limited research in the assessment of verbal reflective practice skills. A valid and reliable tool to assess the presence and development of verbal reflective practice skills is needed to effectively evaluate reflection within group settings. While the coding system used in the current study did not demonstrate a significant difference within conditions over time or between conditions, the procedures were able to be

applied to verbal reflective practice. The author suggests that future research should take a step back to closely examine the validity and reliability of the Plack et al. (2005) coding system when applied to verbal reflective practice, examining only one condition initially.

Investigation of the development of verbal reflective practice skills over time did not produce any significant results when using a coding system (Plack et al., 2005) in the short time frame of the current study. This contradicts results from previous research that have used the same coding system to reliably assess development of written reflective practice over a similar time frame and in a similar cultural and academic cohort (Cook et al., 2014). It was suggested that verbal reflective practice skills did not develop in the time frame as expected, as verbal skills may take longer to develop compared to written reflective practice skills. Future research should compare the development of students' written and verbal reflective practice skills to determine whether these develop at the same speed and what factors influence the development of each skill set.

Another area is the need for validation of the questionnaires used to assess student and CE perceptions of reflective practice. The use of a questionnaire alone may be a beneficial starting point in assessing students' reflective practice skills through the use of self-assessment. While some (e.g., Koole et al., 2011) support the use of self-assessment for reflective practice as it removes the external observer, others (e.g., Kruger & Dunning, 1999) question the validity of a self-assessment measure. A validated questionnaire would ensure that different questions do not cover similar areas and may decrease the amount of questions required. A refined selection of questions would increase the validity of the questionnaire, as overall responses

would be weighted evenly rather than weighted unevenly by responses to similar questions.

While the use of on-topic statements was used as a measurement of student engagement, the ratio of CE to student contribution in discussion may provide further information on students' engagement in group discussions. It was noted that CEs brought individual behaviours and nuances to the facilitation of reflective practice groups, with some feeling more comfortable with student silences and others needing to add their own voice to the discussion. A more robust training programme for CEs in which a script or clearer constraints were provided may be beneficial in a study that measures CE versus student contributions. Further information on the different styles of CE facilitation and feedback from the CEs in this study would be useful in further developing the CE training programme. With a robust training programme, future research could compare the ratio of CE contributions to student contributions, also measuring the length of lulls in discussion for example.

It has been noted (e.g., Boud & Walker, 1998; Gray, 2007) that reflective practice is in danger of being seen by students as an academic requirement or series of items to check off a list rather than a relevant or practical exercise. The area of readiness was not covered in the current study however this is an area that would likely impact students' development of reflective practice skills and engagement in the process. Future research should look into students' readiness to reflect and the impact this has on skill development, student perceptions of and engagement in the process.

## 4.7 Conclusion

The development of speech-language therapy students' verbal reflective practice skills in a group setting was studied. The use of structured activities and prompts did not enhance development of students' reflective practice skills within a group setting over time, however neither did the use of a standard practice approach. Between conditions comparison detected no significant differences in development of reflective practice skills. Further investigation is warranted to determine a suitable assessment method for verbal reflective practice skills in group settings and the validity of the experimental practice approach. This study did detect significant development of student perception of reflective practice in both the standard practice and experimental practice conditions and a significant difference between conditions. This suggests that the use of structured activities and prompts (experimental practice) may be beneficial to improve students' perceptions of reflective practice. However, facilitator training and student education on reflective practice are also important factors to consider when running reflective practice groups, and it is necessary to ensure that both students and facilitators are approaching group reflective practice with a positive outlook and basic level of understanding of reflective practice.

## References

American Speech-Language-Hearing Association. (2008). *Clinical supervision in speech-language pathology* [Position Statement]. Available from www.asha.org/policy

Atkins, S., & Murphy, K. (1993). Reflection: A review of the literature. *Journal of Advanced Nursing, 18*(8), 1188-1192.

Argyris, C., & Schon, D. A. (1974). *Theory in practice: Increasing professional effectiveness.* San Francisco: Jossey-Bass Publishers.

Bates, D., Maechler, M., Bolker, B., & Walker, S. (2015). Fitting Linear Mixed-Effects Models Using lme4. *Journal of Statistical Software, 67*(1), 1-48. doi:10.18637/jss.v067.i01.

Baxter, S., & Gray, C. (2001). The application of student-centred learning approaches to clinical education. *International Journal of Language & Communication Disorders, 36*(2), 396-400.

Bernard, J. M., & Goodyear, R. G. (2009). *Fundamentals of clinical supervision*. New Jersey: Pearson Education Inc.

Birden, H. H., & Usherwood, T. (2013). "They liked it if you said you cried": How medical students perceive the teaching of professionalism. *Medical Journal of Australia*, 199(6), 406-409.

Boenink, A. D., Oderwald, A. K., de Jonge, P., van Tilburg, W., & Smal, J. A. (2004). Assessing student reflection in medical practice. The development of an observer-rated instrument: Reliability, validity and initial experiences. *Medical Education, 38*(4), 368-377.

Boud, D., Keogh, R., & Walker, D. (1985). *Reflection: Turning experience into learning.* New York, NY: Kogan Page/Nichols.

Boud, D., & Walker, D. (1998). Promoting reflection in professional courses: The challenge of context. *Studies in Higher Education, 23*(2), 191-206. doi: 10.1080/03075079812331380384

Bourner, T. (2003). Assessing reflective learning. *Education + Training, 45*(5), 267-272. doi: 10.1108/00400910310484321

Boyd, L. D. (2008). Development of reflective judgement in the pre-doctoral dental clinical curriculum. *European Journal of Dental Education, 12*(3), 149-158.

Brookfield, S. D., (n.d.) Classroom Critical Incident Questionnaire. Retrieved from http://www.stephenbrookfield.com/Dr._Stephen_D._Brookfield/Critical_Incident_Questionnaire_files/CIQ.pdf

Brookfield, S., & Preskill, S. (2005). *Discussion as a way of teaching: Tools and techniques for democratic classrooms* (2nd ed.). San Francisco: Jossey-Bass.

Brookshire, R. H. (2003). *Introduction to neurogenic communication disorders* (6th ed.). St. Louis: Mosby Inc

Bruce, C., Parker, A., & Herbert, R. (2001). The development of a self-directed and peer-based clinical training programme. *International Journal of Language & Communication Disorders, 36*(2), 401-405.

Bulman, C., Lathlean, J., & Gobbi, M. (2012). The concept of reflection in nursing: Qualitative findings on student and teacher perspectives. *Nurse Education Today, 32*(5), e8-e13. doi: http://dx.doi.org/10.1016/j.nedt.2011.10.007

Caty, M., Kinsella, E. A., & Doyle, P. C. (2014). Reflective practice in speech-language pathology: A scoping review. *International Journal of Speech-Language Pathology, 17*(4), 1-10.

Chabon, S. S., & Lee-Wilkerson, D. (2006). Use of journal writing in the assessment of CSD students' learning about diversity: A method worthy of reflection. *Communication Disorders Quarterly, 27*(3), 146-158. doi: 10.1177/15257401060270030301

Clarke, M. (2004). Reflection: Journals and reflective questions: A strategy for professional learning. *Australian Journal of Teacher Education*, *29*, (2), 11-23.

Clouder, L. (2000). Reflective practice in physiotherapy education: A critical conversation. *Studies in Higher Education, 25*(2), 211-223.

Collison, G., Elbaum, B., Haavind, S., & Tinker, R (2000). *Facilitating online learning: Effective strategies for moderators*. Madison, WI: Atwood Pub.

Cook, K., Tillard, G., & Wyles, C. (2014). *Assessing and developing written reflective practice skills in speech-language pathology students.* Poster presented at the American Speech and Hearing Association Convention, Orlando, US, 20-22 November

Cook, K., Tillard, G., Wyles, C. and Keast, L. (2015). *Individual differences in SLP student development of written reflective practice - one size fits all?* Poster presented at the American Speech and Hearing Association Convention, Denver, US, 12 – 14 November

Csikszentmihalyi, M. (2002). *Flow: The classic work on how to achieve happiness*. London: Random House.

Davies, E. (1995). Reflective practice: A focus for caring. *The Journal of nursing education, 34*(4), 167-174.

Day, C. (1993). Reflection: A necessary but not sufficient condition for professional development. *British Educational Research Journal, 19,* 83–93.

de Groot, E., Endedijk, M., Jaarsma, D., van Beukelen, P., & Simons, R-J. (2013). Development of critically reflective dialogues in communities of health professionals. *Advances in Health Sciences Education, 18*(4), 627-643. doi: 10.1007/s10459-012-9403-y

Dewey, J. (1933). *How we think: A restatement of the relations of reflective thinking to the educative process* (2nd ed.). Boston: D.C. Health.

Dubé, V., & Ducharme, F. (2014). Reflective practice among nurses working in a teaching hospital: An action research with promising benefits for professional development. *Journal of Nursing Education and Practice*, *4*(8), 9-19.

Duke, S., & Appleton, J. (2000). The use of reflection in a palliative care programme: A quantitative study of the development of reflective skills over an academic year. *Journal of Advanced Nursing, 32*(6), 1557-1568.

Dunfee, H., Rindflesch, A., Driscoll, M., Hollman, J., & Plack, M. M. (2008). Assessing reflection and higher-order thinking in the clinical setting using electronic discussion threads. *Journal of Physical Therapy Education*, *22*(2), 60.

Durgahee, T. (1996). Reflective practice: Linking theory and practice in palliative care nursing. *International Journal of Palliative Nursing, 2*, 22-25.

Epp, S. (2008). The value of reflective journaling in undergraduate nursing education: A literature review. *International Journal of Nursing Studies, 45*, 1379-1388.

Farrell, T.S. (2004). *Reflective practice in action: 80 reflective breaks for busy teachers.* Thousand Oaks, CA: Corwin Press.

Feinstein, A. H. (2001). An assessment of the effectiveness of simulation as an instructional system in foodservice. *Journal of Hospitality & Tourism Research, 25*(4), 421-443. doi: 10.1177/109634800102500405

Finlay, L. (2008). *Reflecting on 'reflective practice'*. The Open University, UK: Practice-based Professional Learning Centre.

Forsyth, D. R. (2014). *Group dynamics*. Belmont, CA: Cengage Learning.

Fronek, P., Kendall, M., Ungerer, G., Malt, J., Eugarde, E., & Geraghty, T. (2009). Towards healthy professional-client relationships: The value of an interprofessional training course. *Journal of Interprofessional Care, 23*(1), 16-29. doi: 10.1080/13561820802491006

Gee, J. P. (2007). *What video games have to teach us about learning and literacy* (1st ed.). New York: Palgrave Macmillan.

Geller, E., & Foley, G. M. (2009). Broadening the "ports of entry" for speech language pathologists: A relational and reflective model for clinical supervision. *American Journal of Speech-Language Pathology, 18*(1), 22-41. doi: 10.1044/10580360(2008/07-0053)

Gibbs, G. (1988). *Learning by doing: A guide to teaching and learning methods*. Oxford: Further Education Unit, Oxford Polytechnic.

Gil-Garcia, A., & Cintron, Z. (2002). *The reflective journal as a learning and professional development tool for teachers and administrators.* Paper presented at the World Association for Case Method Research and Application Conference, Germany, July 2-5

Gray, D. E. (2007). Facilitating management learning: Developing critical reflection through reflective tools. *Management Learning, 38*(5), 495-517. doi: 10.1177/1350507607083204

Habermas, J. R. (1972). *Knowledge and human interests*. Boston: Beacon Press.

Habermas, J. R. (1974). *Theory and practice*. London: Heinemann.

Halpern, H., & McKimm, J. (2009). Supervision. *British Journal of Hospital Medicine, 70*(4), 226-229.

Handal, G., & Lauvas, P. (1987). *Promoting reflective teaching.* Milton Keynes, UK: Open University Press.

Heath, H. (1998). Reflection and patterns of knowing in nursing. *Journal of Advanced Nursing*, *27*(5), 1054-1059. doi: 10.1046/j.1365-2648.1998.00593.x

Higgs, J., & McAllister, L. (2007). Educating clinical educators: Using a model of the experience of being a clinical educator. *Medical Teacher, 29*(2-3), e51-e57. doi: 10.1080/01421590601046088

Hill, A., Davidson, B., & Theodoros, D. (2012). Reflections on clinical learning in novice speech-language therapy students. *International Journal of Language & Communication Disorders*, *47*(4), 413-426.

Jay, J. K., & Johnson, K. L. (2002). Capturing complexity: A typology of reflective practice for teacher education. *Teaching and Teacher Education, 18*(1), 73-85. doi: 10.1016/S0742-051X(01)00051-8

Johns, C. (1994). A philosophical basis for nursing practice. In C. Johns (Ed.), *The Burford NDU model: Caring in practice*. Oxford: Blackwell Scientific Publications.

Johns, C. (1995). The value of reflective practice for nursing. *Journal of Clinical Nursing*, *4*(1), 23-30.

Johns, C., & Joiner, A. (2002). *Guided reflection: advancing practice*. Oxford: Blackwell Science.

Johns, C. (2005). Expanding the gates of perception. In C. Johns & D. Freshwater (Eds.), *Transforming nursing through reflective practice*. Oxford, England: Blackwell Publishing.

Johnston, G., & Banks, S. (2000). Interprofessional learning modules at dalhousie university. *The Journal of Health Administration Education, 18*(4), 407-427.

Kember, D. (1999). Determining the level of reflective thinking from students' written journals using a coding scheme based on the work of mezirow. *International Journal of Lifelong Education, 18*(1), 18-30.

Kember, D., Leung, D. Y. P., Jones, A., Loke, A. Y., McKay, J., Sinclair, K., . . . Yeung, E. (2000). Development of a questionnaire to measure the level of reflective thinking. *Assessment & Evaluation in Higher Education, 25*(4), 381-395. doi: 10.1080/713611442

Keys, J. B., & Biggs, W. B. (1990). A review of business games. In J. W. Gentry (Ed.), *Guide to business gaming and experiential learning* (p. 48-73). East Brunswick, NJ: Nichols/GP.

Kienle, A., & Ritterskamp, C. (2007). Facilitating asynchronous discussions in learning communities: The impact of moderation strategies. *Behaviour & Information Technology, 26*(1), 73-80. doi: 10.1080/01449290600811594

Killion, J. P., & Todnem, G. R. (1991). A process for personal theory building, *Educational Leadership, 48*(6).

King, P. M., & Kitchener, K. S. (1994). *Developing reflective judgment: Understanding and promoting intellectual growth and critical thinking in adolescents and adults.* CA: Jossey-Bass.

Kinsella, E. A. (2001). Reflections on reflective practice. *Canadian Journal of Occupational Therapy, 68*(3), 195-198.

Kinsella, E. A., Caty, M., & Jenkins, K. (2012). Reflective practice for allied health: Theory and applications. In L. M. English (Ed.), *Adult education and health* (p. 210-228). Toronto: University of Toronto Press.

Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development*. Englewood Cliffs, NJ: Prentice-Hall.

Koole, S., Dornan, T., Aper, L., Scherpbier, A., Valcke, M., Cohen-Schotanus, J., & Derese, A. (2011). Factors confounding the assessment of reflection: A critical review. *BMC Medical Education, 11*(1), 104-104. doi: 10.1186/1472-6920-11-104

Kruger, J., & Dunning, D. (1999). Unskilled and unaware of it: How difficulties in recognizing one's own incompetence lead to inflated self-assessments. *Journal of Personality and Social Psychology, 77*(6), 1121-1134.

Landis, J. R., & Koch, G. G. (1977). The measurement of observer agreement for categorical data. *Biometrics, 33*(1), 159-174.

Larrivee, B. (2005). *Authentic classroom management: Creating a learning community and building reflective practice.* Boston, MA: Allyn & Bacon.

Larrivee, B. (2008). Development of a tool to assess teachers' level of reflective practice. *Reflective Practice, 9*(3), 341-360. doi: 10.1080/14623940802207451

Leach, L., Neutze, G., & Zepke, N. (2001). Assessment and empowerment: Some critical questions. *Assessment & Evaluation in Higher Education, 26*(4), 293-305. doi: 10.1080/02602930120063457

Loughran, J. J. (2002). Effective reflective practice. *Journal of Teacher Education, 53*, 33-43.

Mamede, S., & Schmidt, H. G. (2004). The structure of reflective practice in medicine. *Medical Education, 38*(12), 1302-1308.

Mastergeorge, A. M. (2009). A tool for assessing engagement in instructional contexts. *Seminars in Speech and Language, 30*(1), 48-56.

McAllister, L., & Lincoln, M. (2004). *Clinical education in speech-language pathology*. London: Whurr Publishers Ltd.

McAllister, S., Lincoln, M., Ferguson, A. & McAllister, L. (2013). *COMPASS®: Competency assessment in speech pathology assessment resource manual* (2nd ed.). Melbourne: Speech Pathology Australia.

McDougall, L., & Comfort, L. (2013). Reflective practice: A way of learning for community development practitioners [Discussion paper]. Calgary, CA: Community Development Learning Initiative

McGrath, D., & Higgins, A. (2006). Implementing and evaluating reflective practice group sessions. *Nurse Education in Practice, 6*(3), 175-181. doi: http://dx.doi.org/10.1016/j.nepr.2005.10.003

McKinlay, L., & Ross, H. (2008). *You and others: Reflective practice for group effectiveness in human services*. Toronto, ON: Pearson Canada Ltd.

McVey, J., & Jones, T. (2012). Assessing the value of facilitated reflective practice groups. *Cancer Nursing Practice, 11*(8), 32-37.

Meizrow, J. (1990). *Fostering critical reflection in adulthood: A guide to transformative and emancipatory learning.* San Francisco, CA: Jossey-Bass.

Milne, D. (2007). An empirical definition of clinical supervision. *British Journal of Clinical Psychology, 46,* 437-447.

Morrison, K. (1995). Dewey, Habermas and reflective practice. *Curriculum, 16*(2), 82-89.

Morrison, K. (1996). Developing reflective practice in higher degree students through a learning journal. *Studies in Higher Education, 21*(3), 317-331.

Niemi, P. M. (1997). Medical students' professional identity: Self-reflection during the preclinical years. *Medical Education, 31*(6), 408-415. doi: 10.1046/j.1365-2923.1997.00697.x

Nunamaker, J. F., Applegate, L. M., & Konsynski, B. R. (1987). Facilitating group creativity: Experience with a group decision support system. *Journal of Management Information Systems, 3*(4), 5-19.

O'Halloran, R., Hersh, D., Laplante-Lévesque, A., & Worrall, L. (2010). Person-centeredness, ethics, and stories of risk. *Seminars in Speech and Language, 17;31*(2), 081-089. doi: 10.1055/s-0030-1252109

Osterman, K. F., & Kottkamp, R. B. (1993). *Reflective practice for educators: Improving schooling through professional development*. Thousand Oaks, CA: Corwin Press.

Pipper, C. B., Ritz, C., & Bisgaard, H. (2012). A versatile method for confirmatory evaluation of the effects of a covariate in multiple models. *Journal of the Royal Statistical Society: Series C (Applied Statistics), 61*(2), 315-326.

Plack, M. M., Driscoll, M., Blisset, S., McKenna, R., & Plack, T. P. (2005). A method for assessing reflective journal writing. *Journal of Allied Health, 34* (4), 199-208.

Powell, J. (1989). The reflective practitioner in nursing. *Journal of Advanced Nursing, 14*, 824-832.

Priest, A.M., & Sturgess, P. (2005). But is it scholarship? Group reflection as a scholarly activity. *Studies in learning, evaluation, innovation and development, 2*(1), 1-9.

Quinn, F. M. (1998/2000). Reflection and reflective practice. In C. Davies, L. Finlay & A. Bullman (Eds.), *Changing practice in health and social care*. London: Sage.

Ruben, B. D. (1999). Simulations, games, and experience-based learning: The quest for a new paradigm for teaching and learning. *Simulation & Gaming, 30*(4), 498.

Schaub-de Jong, M. A., Cohen-Schotanus, J., Dekker, H., & Verkerk, M. (2009). The role of peer meetings for professional development in health science education: A qualitative analysis of reflective essays. *Advances in Health Sciences Education,14*(4), 503-513. doi: 10.1007/s10459-008-9133-3

Schaub-de Jong, M. A., Schönrock-Adema, J., Dekker, H., Verkerk, M., & Cohen-Schotanus, J. (2011). Development of a student rating scale to evaluate teachers' competencies for facilitating reflective learning. *Medical Education, 45*(2), 155-165. doi: 10.1111/j.1365-2923.2010.03774.x

Schon, D. A. (1983). *The reflective practitioner: how professionals think in action.* New York: Basic Books.

Schon, D. A. (1987). *Educating the reflective practitioner: Toward a new design for teaching and learning in the professions.* San Francisco: Jossey-Bass.

Seymour, P., & Watt, M. (2015). The professional competencies toolkit: Teaching reflection with flash cards. *Medical Education, 49*(5), 518

Smith, A. (1998). Learning about reflection. *Journal of Advanced Nursing, 28*(4), 891-898. doi: 10.1046/j.1365-2648.1998.00633.x

Smith, E. (2011). Teaching critical reflection. *Teaching in Higher Education, 16*(2), 211-223.

Somerville, D., & Keeling, J. (2004). A practical approach to promote reflective practice within nursing. *Nursing Times, 100*(12), 42-45.

Taylor, M. (1987). Self-directed learning: More than meets the observer's eye. In D. Boud & V. Griffin (Eds.), *Appreciating Adults Learning: from the learner's perspective*. London: Kogan Page.

Teekman, B. (2000). Exploring reflective thinking in nursing practice. *Journal of Advanced Nursing, 31*(5), 1125-1135.

Thorpe, K. (2004). Reflective learning journals: From concept to practice. *Reflective Practice: International and Multidisciplinary Perspectives, 5*(5), 327-343.

Trognon, A. M., & Batt, M. (2012). Group dynamics and learning. In N. M. Seel (Ed.), *Encyclopaedia of the Sciences of Learning*. New York: Springer.

Valli, L. (1997). Listening to other voices: A description of teacher reflection in the United States. *Peabody Journal of Education, 72*(1), 67–88.

Wainwright, S. F., Shepard, K. F., Harman, L. B., & Stephens, J. (2010). Novice and experienced physical therapist clinicians: A comparison of how reflection is used to inform the clinical decision-making process. *Physical Therapy, 90*(1), 75-88. doi: 10.2522/ptj.20090077

Wilding, P. M. (2008). Reflective practice: A learning tool for student nurses. *British Journal of Nursing, 17*(11), 720-724.

Williams, R. M., & Wessel, J. (2004). Reflective journal writing to obtain student feedback about their learning during the study of chronic musculoskeletal conditions. *Journal of Allied Health, 33*(1), 17-23.

Wolfe, J., & Crookall, D. (1998). Developing a scientific knowledge of simulation/gaming. *Simulation & Gaming, 29*(1), 7-19. doi: 10.1177/1046878198291002

Wong, F. K. Y., Kember, D., Chung, L. Y. F., & Yan, L. (1995). Assessing the level of student reflection from reflective journals. *Journal of Advanced Nursing, 22*(1), 48-57. doi: 10.1046/j.1365-2648.1995.22010048.x

Wong, F. K., Loke, A. Y., Wong, M., Tse, H., Kan, E., & Kember, D. (1997). An action research study into the development of nurses as reflective practitioners. *The Journal of nursing education, 36*(10), 476-481.

Zeichner, K. M., & Liston, D. P. (1996). *Reflective teaching: An introduction*. Mahwah, N.J: L. Erlbaum Associates.

# Appendices

*Appendix A*

*Ethics Committee Approval*

UNIVERSITY OF CANTERBURY
*Te Whare Wānanga o Waitaha*
CHRISTCHURCH NEW ZEALAND

HUMAN ETHICS COMMITTEE

Secretary, Lynda Griffioen
Email: human-ethics@canterbury.ac.nz

Ref: 2015/04/ERHEC-LR

30 April 2015

Lydia Keast
Department of Communication Disorders
UNIVERSITY OF CANTERBURY

Dear Lydia

Thank you for forwarding a copy of your low risk application to the Educational Research Human Ethics Committee for your research proposal titled "The development of SLP verbal reflective practice skills within group settings".

I am pleased to advise that this application has been reviewed and I confirm support of the Department's approval for this project.

Please note that this approval is subject to the incorporation of the amendments you have provided in your email of 27 April 2015.

However, the ERHEC wish to recommend that

With best wishes for your project.

Yours sincerely

Nicola Surtees
*Chair*
*Educational Research Human Ethics Committee*

*"Please note that Ethical Approval and/or Clearance relates only to the ethical elements of the relationship between the researcher, research participants and other stakeholders. The granting of approval or clearance by the Ethical Clearance Committee should not be interpreted as comment on the methodology, legality, value or any other matters relating to this research."*

F E S

*Appendix B*

*Student Participant Information and Consent Sheets*

Email: lydia.keast@pg.canterbury.ac.nz

The development of SLP verbal reflective practice skills within group settings.

Information Sheet for Participants

I would like to invite you to participate in the above-named research study, which I am conducting as part of my Master's degree in the Department of Communication Disorders, University of Canterbury.

The development of verbal reflective practice within group settings – why is this significant research? Speech-language therapy students are required to participate in reflective practice groups to reflect on clinical skills and placements. This occurs on a regular basis as part of their clinical competency within reasoning and life –long learning elements of COMPASS®, a standardized assessment of clinical competency used within the Bachelor of Speech-Language Pathology Degree and Master of Speech-Language Pathology Degree. However there is a lack of research specific to speech-language therapy student's reflective practice skill development within reflective practice groups.

This research will allow the clinical team to improve their facilitation of reflective practice groups and improve student learning.

If you agree to take part you will be asked to do the following:

- Participate in six Reflective Practice groups over six weeks as per the course outline for CMDS 382, which will be recorded (audio and visual) and analysed.

- Allow COMPASS® data from clinical placement to be accessed by authors of the study.

Please note that participation in this study is voluntary. If you do participate, you have the right to withdraw from the study at any time without penalty. If you withdraw, I will do my best to remove any information relating to you, provided this is practicably achievable. You may not however withdraw from attending and participating in weekly Reflective Practice groups—participation in these groups is a required part of your SLP degree.

Participating in this study or not participating will in no way have any impact on your

grade for this course. Markers of the clinical paper will not be aware whether you participate or not in this study. The data gathered and analysis style used will not influence the grade of the paper or your reflection process.

The results of this research may be made available to future studies in reflective practice within the department, and also may be used to improve the clinical programme for speech-language therapy students. The results may also be reported internationally at conferences and/or in journals specific to speech-language therapy practice or reflective practice. All participants will receive a report on the study.

I will take particular care to ensure the confidentiality of all data gathered for this study. I will also take care to ensure your anonymity in publications of the findings. Should you consent to audio and audio-visual recordings being made available for teaching and presentation purposes, you understand that this may reduce participant anonymity.

All the data will be securely stored in password protected facilities and locked storage at the University of Canterbury for five years following the study. It will then be destroyed.

If you have any questions about the study, please contact me (details above). If you have a complaint about the study, you may contact Gina Tillard (Director of Clinical Education – gina.tillard@canterbury.ac.nz) or The Chair, Educational Research Human Ethics Committee, University of Canterbury, Private Bag 4800, Christchurch (human-ethics@canterbury.ac.nz).

This project has been reviewed and approved by the Department of Communication Disorders and the UC ERHEC low risk ethics process.

If you agree to participate in this study, please complete the attached consent form and return it to me in the envelope provided by Friday 5$^{th}$ June.

Email: lydia.keast@pg.canterbury.ac.nz

7 April 2014

UNIVERSITY OF CANTERBURY
*Te Whare Wānanga o Waitaha*
CHRISTCHURCH NEW ZEALAND

Consent form
(circle Y or N)

I have been given a full explanation of this project and have been given an opportunity to ask questions. **Y / N**

I understand what will be required of me if I agree to take part in this project. **Y / N**

I understand that my participation is voluntary and that I may withdraw at any stage without penalty. **Y / N**

I understand that COMPASS® data from my clinical placement to be accessed by authors of the study. **Y / N**

I consent to data from this study may be made available for future studies. **Y / N**

I consent to audio recordings from this study being made available for teaching and presentation purposes. **Y / N**

I consent to audio-visual recordings from this study being made available for teaching and presentation purposes. **Y / N**

I understand that any information or opinions I provide will be kept confidential to the researcher and that any published or reported results will not identify me. **Y / N**

I understand that all data collected for this study will be kept in locked and secure facilities at the University of Canterbury and will be destroyed after five years. **Y / N**

I understand that I will receive a report on the findings of this study. I have provided my email details below for this. **Y / N**

I understand that if I require further information I can contact the researcher, Lydia Keast. If I have any complaints, I can contact Gina Tillard or the Chair of the University of Canterbury Educational Research Human Ethics Committee. **Y / N**

This project has been reviewed and approved by the Department of Communication Disorders and the UC ERHEC low risk ethics process.

By signing below, I agree to participate in this research project.

Name: _____

Date: _____

Signature: _____

Email address: _____

Please return this completed consent form to Lydia Keast in the envelope provided by 5th June 2015.

*Appendix C*

*CE Participant Information and Consent Sheets*

Email: lydia.keast@pg.canterbury.ac.nz

The development of SLP verbal reflective practice skills within group settings.

Information Sheet for Supervisor Participants

I am a Master's student in the Department of Communication Disorders, University of Canterbury. I would like to invite you to participate in the above-named research study.

The development of verbal reflective practice within group settings – why is this significant research? Speech-language therapy students are required to participate in reflective practice groups to reflect on clinical skills and placements. This occurs on a regular basis as part of their clinical competency within reasoning and life –long learning elements of COMPASS®, a standardized assessment of clinical competency used within the Bachelor of Speech-Language Pathology Degree and Master of Speech-Language Pathology Degree. However there is a lack of research specific to speech-language therapy student's reflective practice skill development within reflective practice groups.

This research will allow the clinical team to improve their facilitation of reflective practice groups and improve student learning.

If you agree to take part you will be asked to do the following:

- Allow researchers to collect and analyse information on your perspective and views of Reflective Practice groups, in the form of a short questionnaire.

Please note that participation in this study is voluntary. If you do participate, you have the right to withdraw from the study at any time without penalty. If you withdraw, I will do my best to remove any information relating to you, provided this is practicably achievable. You may not however withdraw from completing your usual course requirements.

Participating in this study or not participating will in no way have any impact on your CMDS506 clinical performance.

I will take particular care to ensure the confidentiality of all data gathered for this study. I will also take care to ensure your anonymity in publications of the findings. All the data will be securely stored in password protected facilities and locked storage at the University of Canterbury for five years following the study. It will then be

destroyed.

The results of this research may be used to revise and improve the clinical programme for speech-language therapy and Audiology students. The results may also be reported internationally at conferences and/or in journals specific to speech-language therapy practice or reflective practice. All participants will receive a report on the study.

If you have any questions about the study, please contact me (details above). If you have a complaint about the study, you may contact Gina Tillard (Director of Clinical Education – gina.tillard@canterbury.ac.nz) or The Chair, Educational Research Human Ethics Committee, University of Canterbury, Private Bag 4800, Christchurch (human-ethics@canterbury.ac.nz).

This project has been reviewed and approved by the Department of Communication Disorders.

If you agree to participate in this study, please complete the attached consent form and return it to me in the envelope provided by Friday 5th June.

Telephone: +64 3 364 2987 ext. 8465

Email: lydia.keast@pg.canterbury.ac.nz

Reflective Practice Facilitator consent form
(circle Y or N)

I have been given a full explanation of this project and have been given an opportunity to ask questions. **Y / N**

I understand what will be required of me if I agree to take part in this project. **Y / N**

I understand that my participation is voluntary and that I may withdraw at any stage without penalty. **Y / N**

I understand participating in this study will have no impact (positive or negative) on my CMDS605 clinical performance. **Y / N**

I understand that any information or opinions I provide will be kept confidential to the researcher and that any published or reported results will not identify me. **Y / N**

I consent to audio recordings from this study being made available for teaching and presentation purposes. **Y / N**

I consent to audio-visual recordings from this study being made available for teaching and presentation purposes. **Y / N**

I understand that any information or opinions I provide will be kept confidential to the researcher and that any published or reported results will not identify me. **Y / N**

I understand that all data collected for this study will be kept in locked and secure facilities at the University of Canterbury and will be destroyed after five years. **Y / N**

I understand that I will receive a report on the findings of this study. I have provided my email details below for this. **Y / N**

I consent to results from this study being made available to future studies approved by an institutional ethics committee. **Y / N**

I understand that if I require further information I can contact the researcher, Lydia Keast. If I have any complaints, I can contact Gina Tillard or the Chair of the University of Canterbury Educational Research Human Ethics Committee. **Y / N**

Please confirm that you agree, by completing the information on the other side of this sheet.

By signing below, I agree to participate in this research project.

Name: _____

Date: _____

Signature: _____

Email address: _____

Please return this completed consent form to Lydia Keast in the envelope provided

*Appendix D*

*McAllister & Lincoln (2004) Prompts Mapped to Plack et al. (2005) Codes*

| **Student prompts to assist when self-evaluating a session**<br><br>McAllister & Lincoln (2004) | *Plack et al.'s (2005) coding schema mapped onto the prompts* |
|---|---|
| What was your overall impression of the session? | *Returns to experience Reflection on action*<br>*Reflection for action*<br>*Reflection in action*<br>*Content*<br>*Process* |
| What things went well during the session and what did you learn from these? | |
| What things went wrong during the session and what did you learn from these? | |
| What emotions can you remember feeling during the session? | *Attends to feelings*<br>*Premise* |
| Did you observe or think about client emotions or behaviours during the session? | *Attends to feelings*<br>*Process* |
| Did the session follow your plan? Why or why not? | *Process and content* |
| What theoretical knowledge did you use or could have used during this session? | *Re-evaluates* |
| What past experiences did you use or could have used during this session? | *Re-evaluates* |
| What do you need to learn or find out about before the next session? | *Reflection for action*<br>*Process* |
| What impact do you feel your own assumptions, values, beliefs or biases may have had on the session or observation? | *Premise* |

*Appendix E*

*Full List of Questions/Prompts Used in Structured Activity Condition*

| | **Variations of Question/Prompt Types** |
|---|---|
| Prompt 1 | • Were there any moments in clinic this week that you made a decision you then wished to change? What was this decision and the effect of this? How would you do this differently in future?<br>• Choose one clinical experience to describe and then complete this sentence: During the experience I made the decision to ____. In future I will do the following differently: ___.<br>• Describe a stand-out clinical experience: What decisions did you make in the midst of it? On reflection were these the most beneficial decisions?<br>• Describe an experience in clinic this week and what you did. Would you do anything differently if faced with a same or similar situation?<br>• Glitter is something that stands out – describe a stand out experience from your week? What did you think/do during the experience and what do you think now?<br>• Describe an experience where you were able to identify and change something in the moment (rather than waiting for the next session to make a change) – was this change effective? |
| Prompt 2 | • Describe a clinical experience. What will be different in future – knowledge, behaviours, and plan?<br>• Describe an experience and what you plan to do differently next time – e.g. what I need to learn and what different behaviour I will use.<br>• Share an experience from this week and how will you begin to plan for future clinical experiences based on this.<br>• Based on my description of this week's experiences, in future clinical situations I will plan to…<br>• When you make a mistake, you can use white-out to do something different over top. If you could 'white-out' and do something in clinic differently, describe what happened and what would you change if you could.<br>• Share an experience from this week. If you could do it over, what would you do differently? |
| Prompt 3 | • Describe a clinical experience and the emotions you can remember feeling during this, and how you worked through these.<br>• Describe a clinical experience. What personal emotions did you have to address during this and how?<br>• Describe a clinical experience and complete the sentence: The feelings I faced this week were…and I dealt with these in the following ways…<br>• Describe a clinical experience and the feelings associated with this. What made you feel that way?<br>• Describe something sad / unusual or worrying that happened in your session/clinic – and consider how you feel now about the situation.<br>• This object has two emotions showing – there are many more that we feel in clinic. What are some emotions you felt in clinic this week and how did you deal with these? Provide a description of the event surrounding the emotions also. |
| Prompt 4 | • Describe a clinical experience. Did you observe or think about client emotions or behaviours during this?<br>• Describe an event from this week where the reaction from the client was not what you expected– what's another way that you could look at this<br>• Describe a clinical experience and discuss client behaviours/emotions, |

| | |
|---|---|
| | and the causes and implications of these.<br>• Describe a clinical experience and complete the sentence: The client showed these emotions/behaviours…because of…and this meant…<br>• Describe a clinical experience and then any new insights when you view the experience from the client's perspective – what they feel/think.<br>• Using a magnifying glass can help you to look at something more closely, or from a different perspective. Describe a clinical experience and then talk about it from the perspective of a client. |
| Prompt 5 | • Describe the specific steps you took that contributed to a session/objective following or not following the plan.<br>• Describe a clinical experience. What theoretical knowledge/ strategies I used and if they were successful.<br>• Describe the strategies involved in an experience – were these successful or not?<br>• Describe a clinical experience from this week. What I planned to do this week and the strategies I planned to use – successful or not.<br>• There are strategies for solving a Rubik's cube – what are some strategies you used in clinic this week? Were these successful or not?<br>• Describe a clinical experience and any strategies you used during this. Were there any other strategies you could have used to achieve a better outcome? |
| Prompt 6 | • Were there any moments in clinic where your own values differed to those of the client? What happened? How did you address this?<br>• Did you make any assumptions this week that then impacted on the session? Describe the experience and what you did.<br>• Describe a clinical experience and answer the following: What personal values or beliefs did I bring to my experiences and were there any implications of this?<br>• Complete the sentence: My personal belief that…influenced my session/interaction with the client in the following ways…<br>• Describe a significant event/experience from the week– and consider how you acted that was in tune with your own values.<br>• A mirror reflects your own image back at you. Take a look at what of your own personal beliefs you brought into clinic this week and describe an event where this is evident. |
| Prompt 7 | • Describe a clinical experience. What past experiences did you refer back to (or could have) during this?<br>• Describe a clinical experience. How does my experience relate to previous situations I or my peers have faced?<br>• Describe an experience. How have you associated this week's experience with past experiences, linking new information to pre-existing knowledge?<br>• Describe a previous experience/client/session that and how it is similar or different to an experience from this week.<br>• Describe a situation you faced this week – how can you be sure that the knowledge gained is valid and reliable?<br>• Describe a clinical experience. How will you take this week's experience and use new knowledge to change how you act?<br>• This picture has similarities and differences – describe this week's experience and compare it with previous experiences. |

*Appendix F*

*Schedule of Structured Activities in Experimental Practice Condition*

| Intervention Phase | Activities |
|---|---|
| **Week 1** | Pass-the-Parcel |
| **Week 2** | Dice Roll |
| **Week 3** | Weekly Items |
| **Week 4** | Token Toss |
| **Week 5** | Board Game |
| **Week 6** | Fortune Teller |

*Appendix G*

*Standard Practice CE Guidelines*

**Reflective Practice Group Facilitation – Standard Practice Approach**

Welcome to Term 4 Reflective Practice Groups. You will be facilitating your group according to current standard practice within the Communication Disorders department.

Reflective Practice Groups are as stated in the CMDS382 course outline: Students will engage in reflective practice groups that will cover a range of salient clinical topics as they arise within students' clinical settings. The reflective practice groups will comprise of students from Year 3 BSLP. Students will facilitate and engage in reflective discussions integrating previous experiences and knowledge to assist with problem solving case management and team based queries as they arise.

You will act as a facilitator of each Reflective Practice Group, to facilitate and guide discussion among students – this may be asking other students for their opinion, or sharing yours but not allowing students to come to you for answers. A facilitator does not sit and lecture the group; instead your role is as an active, unbiased member of the learning process.

Each group should be run as follows, closely aligned to the Brookshire Session Organisation format to ensure consistency (Brookshire, 2003). The Brookshire format is taught and used with the University of Canterbury Department of Communication Disorders to plan client sessions. It is designed to put the client at ease as they begin a session, provide success at key times (such as beginning and end of the session), and to give the session a structure that is easy for both client and therapist to follow.

*Hello/Opening* - This gives the students time to settle in, get comfortable, and get problems and concerns out of the way and helps to establish and maintain personal rapport within the group.

Week Seven Opening Statement: During your first group, you will also need to explain to the students that the format of the group will remain the same from week to week. As these groups are being run as a part of a study the time spent for discussion should aim to be about 25 minutes each week, however this is not a strict time limit. If you finish discussion with extra time to spare, you should ask: "Is there anything else clinic-related that you would like to discuss?" Then use the closing statement to end the discussion time, as normal and move onto the cool-down. If your group discussion time extends beyond 25 minutes, you do not need to cut the discussion short. Allow the group to continue discussion until completion, ask "Is there anything else clinic-related that you would like to discuss?" and use the closing statement. It is important here, that you do manage time to ensure that the cool-down and goodbye are completed.

At the start of your first group you can use the following script:

"Each week will be run in the same format – starting with hellos. During this time you can settle in and catch up with one another. Then we will take turns sharing our highs

and lows from the week – something that didn't go well in clinic and something that did go well. After we finish this, we will go into a time of discussion in which we will talk about your clinical experiences in depth. Following discussion, we'll talk about what you will take from the week's group and how you will apply it to your upcoming week in clinic. Reflective group will then end for the week."

Weeks Eight to Twelve Opening Statement example: "Hi everyone, how have your weeks been? Good to see you all here."

This will then lead into a short interval of an easy task, the Accommodation, in which the students' discussion requires little effort.

*Accommodation/Warm Up* –this will be through student turn-taking in which they briefly report weekly highs/lows. You may need to facilitate this by using statements such as "What went well?" and "What didn't go well?" When you move into the 'Treatment' section, this is when you will discuss these highs and lows more in depth.

*Treatment* – this is 'reflective discussions integrating previous experiences and knowledge to assist with problem solving case management' and should be opened and closed through the use of lead-in and closing statements which will mark the discussion period. The time for discussion will be about 25 minutes, however this is a guideline as previously discussed. During discussion time, as is standard practice, you may make comment to encourage students to remain on topic, choosing from the pool of prompts that will be provided to you. While every student does not need to comment on every topic discussed, if at any time you notice a student is not engaging in discussion you may ask them to comment on the current topic or to contribute their own opinion/experiences.

Lead in statements that may be used:

- "Now let's discuss clinical experiences from this week."

- "Time to talk about the clinical experiences you've faced this week."

- "Let's go into more detail about those highs and lows."

Statements to close discussion that may be used:

- "Great discussion, let's wrap up."

- "You've covered a good range of clinical experiences – well done."

If you use a lead-in or closing statement *not* included in the guidelines, this is acceptable – please ensure that your choice of statement makes it clear that you are moving into a time of discussion, and record the statement that you use.

*Cool-Down* – ending the group with success will contribute to a sense of accomplishment for the students that generalises to the group as a whole. Following

the use of a closing statement, facilitate summative discussion by asking: "What will you take from this group going forward?"

*Goodbye* – during the goodbye confirm the meeting time for the following week's group.

***Other points to note:***

At the ends of Weeks 8, 10, and 12, the students will be required to complete questionnaires. A link to the online questionnaire will be emailed to each student, and able to be accessed at the end of group. This needs to be completed following the goodbye but within the group time. For this, students will be required to bring a laptop, iPad or smart-phone. However, it is imperative that students are not using any devices during group time.

As you are also participants in the study, you will be required to fill in a questionnaire at the ends of Weeks 8, 10, and 12. The link for this will be sent to you via email, and may be completed while the students complete their questionnaire.

No mention or suggestion of food/shared baking should be made by the facilitator – if the students wish to provide baking/food each week this is allowed, however this should be directed only by the students.

The room will be set up in the same furniture layout each week, please leave it this way when you leave.

Each week you will need to enter how many students were present in your reflective practice group – please follow this link to enter the information. https://docs.google.com/spreadsheets/d/1Ys8Ze8hsvvENvDU9gVmDP1ERm9tspTyF_SfAvRhoqpA/edit?usp=sharing

The group will also be recorded – I will be in charge of ensuring that recording is started and ended each week.

***Strategies to Improve Discussion***

1. Talk about topics that inspire discussion – don't force the students to discuss a topic that isn't relevant in some way to their clinical learning. You may need to use a personal example to show relevance.
2. Ask a range of questions, from low to high level.
    - High level questions – usually open-ended, and require the student to interpret and evaluate. The student should manipulate multiple pieces of information in order to respond, using logic and reason.
    - Low level questions – usually closed, fact-based, directive questions that measure knowledge or the student's ability to recall.

3. Gather student information from the start – set the expectation that students should be ready to discuss by coming prepared with clinical examples from their weeks.
4. Ask for multiple perspectives – if a student is holding back, ask their opinion. Conversely, if one student is dominating the discussion you may need to ask for other opinions.
5. Add your interpretation – addition of your personal experiences and understanding can bolster discussion and increase the relevance of the topic being discussed.
6. Slow down discussion – the students may make surface-level statements and move on, don't be afraid to ask them to expand on statements.

***General Statements/Prompts for Facilitating Group Discussion***

- "[Student name]…have you ever had a similar experience/feeling/situation?"
- "That's a good point [student name] – how has this influenced your behaviour in clinic?"
- "I've had a similar experience where…"
- "Thanks for sharing [student name], does anyone else have an experience/thought they want to share around this?"
- "Why do you think this experience was important?"
- "What questions do you have about this experience?"
- "[Student name], can you expand on that statement?"

References/Further information:

Bo-Linn, C. (2006) *Question: Levels and Types of Questions*. Retrieved from http://leusd.les.schoolfusion.us/modules/groups/homepagefiles/cms/568549/File/Files%202009/Levels_and_Types_of_Questions.pdf

Brookshire, R., H. (2003) *Introduction to Neurogenic Communication Disorders*. *(*Ed. 6) p 244-245 Mosby St. Louis

Moskovits, A. (2008) *Higher and Lower Cognitive Questions*. Retrieved from http://tccl.rit.albany.edu/knilt/index.php/Higher_and_Lower_Cognitive_Questions

*Appendix H*

*Experimental Practice CE Guidelines*

**Reflective Practice Group Facilitation – Structured Activities Approach**

Welcome to Term 4 Reflective Practice Groups. You will be facilitating your group with the use of structured activities.

Reflective Practice Groups are as stated in the CMDS382 course outline: Students will engage in reflective practice groups that will cover a range of salient clinical topics as they arise within students' clinical settings. The reflective practice groups will comprise of students from Year 3 BSLP. Students will facilitate and engage in reflective discussions integrating previous experiences and knowledge to assist with problem solving case management and team based queries as they arise.

You will act as a facilitator of each Reflective Practice Group, to facilitate and guide discussion among students with the use of a different activity each week - this may be asking other students for their opinion, or sharing yours but not allowing students to come to you for answers. A facilitator does not sit and lecture the group; instead your role is as an active, unbiased member of the learning process.

Each group should be run as follows, closely aligned to the Brookshire Session Organisation format to ensure consistency (Brookshire, 2003). The Brookshire format is taught and used with the UC Department of Communication Disorders to plan client sessions. It is designed to put the client at ease as they begin a session, provide success at key times (such as beginning and end of the session), and to give the session a structure that is easy for both client and therapist to follow.

*Hello/Opening* - This gives the students time to settle in, get comfortable, and get problems and concerns out of the way and helps to establish and maintain personal rapport within the group.

Week Seven Opening Statement: During your first group, you will also need to explain to the students that the format of the group will remain the same from week to week. As these groups are being run as a part of a study the time spent for discussion should aim to be about 25 minutes each week, however this is not a strict time limit. If you finish discussion with extra time to spare, you should ask: "Is there anything else clinic-related that you would like to discuss?" Then use the closing statement to end the discussion time, as normal and move onto the cool-down. If your group discussion time extends beyond 25 minutes, you do not need to cut the discussion short. Allow the group to continue discussion until completion, ask "Is there anything else clinic-related that you would like to discuss?" and use the closing statement. It is important here, that you do manage time to ensure that the cool-down and goodbye are completed.

At the start of your first group you can use the following script:

"Each week will be run in the same format – starting with hellos. During this time you can settle in and catch up with one another. Then we will take turns sharing our highs and lows from the week – something that didn't go well in clinic and something that

did go well. After we finish this, we will go into a time of discussion in which we will talk about your clinical experiences in depth, using the activity for that week. Following discussion, we'll talk about what you will take from the week's group and how you will apply it to your upcoming week in clinic. Reflective group will then end for the week."

Weeks Eight to Twelve Opening Statement example: "Hi everyone, how have your weeks been? Good to see you all here."

This will then lead into a short interval of an easy task, the Accommodation, in which the students' discussion requires little effort.

*Accommodation/Warm Up* –this will be through student turn-taking in which they briefly report weekly highs/lows. You may need to facilitate this by using statements such as "What went well?" and "What didn't go well?" When you move into the 'Treatment' section, this is when you will discuss these highs and lows more in depth.

*Treatment* – this is 'reflective discussions integrating previous experiences and knowledge to assist with problem solving case management' and should be opened and closed through the use of lead-in and closing statements which will mark the discussion period. The time for discussion will be about 25 minutes, however this is a guideline as previously discussed. During discussion time, as is standard practice, you may make comment to encourage students to remain on topic. Along with each activity, a list of prompts for that specific activity will be provided. While every student does not need to comment on every topic discussed, if at any time you notice a student is not engaging in discussion you may ask them to comment on the current topic or to contribute their own opinion/experiences.

During this time, it's most important that students are given the opportunity to respond to *all* prompts (all prompts are asked) rather than all students respond to every prompt – as you note the time, you may need to direct the students onto the next prompt.

Lead in statements that may be used:

- "Now let's use the activity to talk about clinical experiences from this week."

- "Time to talk about the clinical experiences you've faced this week."

- "Let's go into more detail about your weeks using the activity."

Statements to close discussion that may be used:

- "Great discussion, let's wrap up."

- "You've covered a good range of clinical experiences – well done."

*Cool-Down* – ending the group with success will contribute to a sense of accomplishment for the students that generalises to the group as a whole. Following the use of a closing statement, facilitate summative discussion by asking: "What will you take from this group going forward?"

*Goodbye* – during the goodbye confirm the meeting time for the following week's group.

***Other points to note:***

At the ends of Weeks 8, 10, and 12, the students will be required to complete questionnaires. A link to the online questionnaire will be emailed to each student, and able to be accessed at the end of group. This needs to be completed following the goodbye but within the group time. For this, students will be required to bring a laptop, iPad or smart-phone. However, it is imperative that students are not using any devices during group time.

As you are also participants in the study, you will be required to fill in a questionnaire at the ends of Weeks 8, 10, and 12. The link for this will be sent to you via email, and may be completed while the students complete their questionnaire.

No mention or suggestion of food/shared baking should be made by the facilitator – if the students wish to provide baking/food each week this is allowed, however this should be directed only by the students.

The room will be set up in the same furniture layout each week, please leave it this way when you leave.

The group will also be recorded – I will be in charge of ensuring that recording is started and ended each week.

***Strategies to Improve Discussion***

7. Talk about topics that inspire discussion – don't force the students to discuss a topic that isn't relevant in some way to their clinical learning. You may need to use a personal example to show relevance.
8. Ask a range of questions – open, low to high level.
9. Gather student information from the start – set the expectation that students should be ready to discuss by coming prepared with clinical examples from their weeks.
10. Ask for multiple perspectives – if a student is holding back, ask their opinion. Conversely, if one student is dominating the discussion you may need to ask for other opinions.
11. Add your interpretation – addition of your personal experiences and understanding can bolster discussion and increase the relevance of the topic being discussed.

12. Slow down discussion – the students may make surface-level statements and move on, don't be afraid to ask them to expand on statements.

***General Statements/Prompts for Facilitating Group Discussion***

- "[Student name]…have you ever had a similar experience/feeling/situation?"
- "That's a good point [student name] – how has this influenced your behaviour in clinic?"
- "I've had a similar experience where…"
- "Thanks for sharing [student name], does anyone else have an experience/thought they want to share around this?"
- "Why do you think this experience was important?"
- "What questions do you have about this experience?"
- "[Student name], can you expand on that statement?"

References/Further information:

Bo-Linn, C. (2006) *Question: Levels and Types of Questions*. Retrieved from http://leusd.les.schoolfusion.us/modules/groups/homepagefiles/cms/568549/File/Files%202009/Levels_and_Types_of_Questions.pdf

Brookshire, R., H. (2003) *Introduction to Neurogenic Communication Disorders*. *(*Ed. 6) p 244-245 Mosby St. Louis

Moskovits, A. (2008) *Higher and Lower Cognitive Questions*. Retrieved from http://tccl.rit.albany.edu/knilt/index.php/Higher_and_Lower_Cognitive_Questions

*Appendix I*

*Experimental Practice Instructions for Structured Activities*

**Reflective Practice – Structured Activities Rules and Guidelines**

The activities that you have been provided are designed to elicit specific types of reflective statements from students. Each activity will have prompts provided, and instructions on how to introduce and elicit different types of student responses. During each activity and accompanying discussion, it is expected that students include description of the clinical experience, client and/or context.

When the students respond during the activities, encourage them to talk about either their *high* or *low* (see facilitator guidelines) that they have previously identified, or another clinical experience from their week.

For each activity, it is more important that *all prompt types* are covered rather than *every student answers every question*. When you as the facilitator feel the prompt type has been adequately covered and as you monitor time, prompt the next student to take their turn.

You will be provided with a box that contains the activities individually bagged and labelled to ensure that you know which activity to use each week. The instructions and objects required for each activity will be included in the bag.

**Schedule of Activities for Reflective Practice Groups**

| | **Activities** |
|---|---|
| **Week 7** | Pass-the-Parcel |
| **Week 8** | Dice Roll |
| **Week 9** | Weekly Items |
| **Week 10** | Token Toss |
| **Week 11** | Board Game |
| **Week 12** | Fortune Teller |


**Week 7: Pass-the-parcel**

**Objects**

- 1x parcel
- iPad with music

**Steps**

Using the app provided, play music for the students.

As the music plays, the students will pass the parcel.
When the music stops, the student holding the parcel will unwrap a single layer – revealing a prompt.
The student who un-wraps the prompt will read it aloud to the group, and may either respond first or ask another student to respond. During the activity, the student who

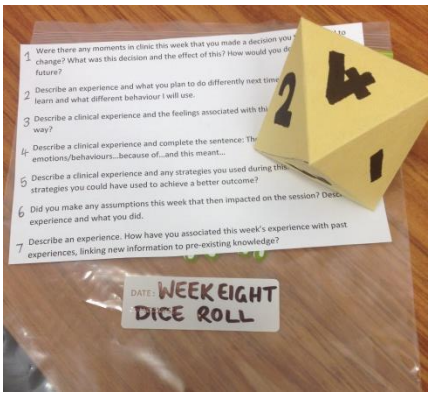
un-wraps the prompt does not have to be the first person to contribute/respond to the statement.

Students may also contribute to discussion of a prompt by responding to one of their peers' statements, or commenting on one of their own experiences that relates to the prompt.
When you as the facilitator feel the prompt type has been adequately covered and as you monitor time, prompt the next student to take their turn.

**Extras**

- If the parcel lands in between two students, the student who was passing the parcel (as opposed to receiving) will un-wrap the layer.
- If the students struggle with a prompt, you may share a personal experience to initiate student discussion.
- If the students are not contributing/discussing a prompt, wait 5 seconds then ask "Can anyone else share something from their experiences?"

**Week 8: Dice-Roll**




**Objects**

- 1x 8 sided dice
- List of numbers and prompt type correlation

**Steps**

The students will take turns to roll the dice.

When a student rolls the dice, the number that lands face up will correlate to a prompt. The student who rolled the dice will read the prompt aloud to the group. The student may either respond first or ask another student to respond.
The students will then discuss as a group and make statements related to the prompt. During the activity, the student whose turn it is does not have to be the first person to contribute/respond to the statement.

Students may also contribute to discussion of a prompt by responding to one of their peers' statements, or commenting on one of their own experiences that relates to the prompt.
When you as the facilitator feel the prompt type has been adequately covered and as you monitor time, prompt the next student to take their turn.

**Example**

A student rolls a 6. That student then reads the prompt that correlates with the number 6, aloud to the other students.

**Extras**

- If a student rolls a number already discussed, they will roll the dice again.
- If the students struggle with a prompt, you may share a personal experience to initiate student discussion.
- If a student rolls an '8', they may choose another number that has not been previously rolled.
- If the students are not contributing/discussing a prompt, wait 5 seconds then ask "Can anyone else share something from their experiences?"


**Week 9: Weekly Items**

**Objects**

- Glitter
- White-out
- Happy/sad face
- Magnifying glass
- Rubics cube
- Compact mirror
- Spot-the-difference picture

**Steps**

Place all items on the table so that they are visible to the students – don't tell the students what each object represents.

The first student will pick an item and read out the prompt that is attached to that item. The student may either respond first or ask another student to respond.

The students then must discuss the prompt as a group. During the activity, the student whose turn it is does not have to be the first person to contribute/respond to the statement.

Students may also contribute to discussion of a prompt by responding to one of their peers' statements, or commenting on one of their own experiences that relates to the prompt.

When you as the facilitator feel the prompt type has been adequately covered and as you monitor time, prompt the next student to take their turn by choosing an item.

**Example**

____, you chose the glitter – read out the question attached to that.

**Extras**

- If the students struggle with a prompt, you may share a personal experience to initiate student discussion.
- If the students are not contributing/discussing a prompt, wait 5 seconds then ask “Can anyone else share something from their experiences?”


**Week 10: Token Toss**

**Objects**

- 7 different coloured spots
- Green tokens
- List of colours and prompt type correlation

**Steps**

Place the coloured spots on the ground, and give each student a handful of tokens (no specific number is required, as if they run out you can provide more).

Students will take turns throwing tokens onto the spots. When a student lands a token on a spot, they will turn the spot over and reveal a prompt underneath. The student will then read aloud the prompt, and will either respond or ask another student to respond.

As a group, the students will discuss and make statements related to the prompt. During the activity, the student whose turn it is does not have to be the first person to contribute/respond to the statement.

Students may also contribute to discussion of a prompt by responding to one of their peers’ statements, or commenting on one of their own experiences that relates to the prompt.

When you as the facilitator feel the prompt type has been adequately covered and as you monitor time, prompt the next student to take their turn.

**Examples**

A student lands their token on the yellow spot. The student turns over the spot and reads the prompt underneath.

**Extras**

- If a student doesn’t land a token on a spot, the next student will take their turn.
- If the students struggle with a prompt, you may share a personal experience to initiate student discussion.

- If the students are not contributing/discussing a prompt, wait 5 seconds then ask “Can anyone else share something from their experiences?”


**Week 11: Board Game**

**Objects**

- 1x 6 sided dice
- 1x game board
- 5x coloured game pieces
- List of colour and prompt type correlation

**Steps**

The students will take turns to roll the dice and move their game piece along the board.

Whatever colour square they land on, will correlate to a prompt. The student that has just rolled will be the person to read the prompt aloud. They may be the first to respond, or could ask another student to respond.

As a group, the students will then discuss and make statements related to the prompt. During the activity, the student whose turn it is does not have to be the first person to contribute/respond to the statement.

Students may also contribute to discussion of a prompt by responding to one of their peers’ statements, or commenting on one of their own experiences that relates to the prompt.

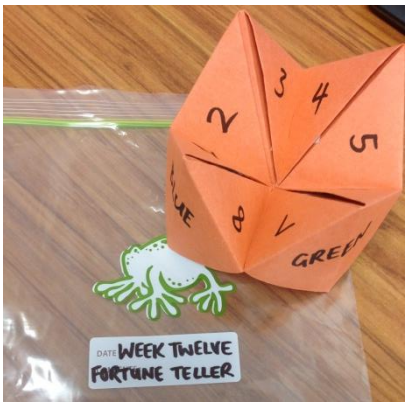
When you as the facilitator feel the prompt type has been adequately covered and as you monitor time, prompt the next student to take their turn.

**Examples**

A student rolls a 6 and moves their piece along the board 6 spaces. That student then reads aloud the prompt that correlates with the colour square that they have landed on.

**Extras**

- If a student lands on a colour of which the prompt has already been discussed, the next student will roll.
- If the students struggle with a prompt, you may share a personal experience to initiate student discussion.
- If the student lands on a black square, they may choose to move their piece to another colour that has not yet been landed on.
- If the students are not contributing/discussing a prompt, wait 5 seconds then ask “Can anyone else share something from their experiences?”




**Week 12: Paper 'Fortune Teller'**

**Objects**

- 1x paper fortune teller
- List of number and prompt type correlation

**Steps**

The facilitator will hold the fortune teller, holding the four corners of the paper with pointer fingers and thumbs on both hands. This will be demonstrated to you during the training Q&A.

The facilitator asks the first student what colour they chose, and uses their fingers to move the corners. The number of times the corners are moved is decided by the number of letters in the chosen colour. The student then chooses one of the four numbers that will now be visible. The facilitator will again move the corners based on the number chosen.
The student will then choose one of the four visible numbers, and read aloud the prompt under the chosen number.

The student who reads the prompt may either respond first or ask another student to respond. The students will then discuss the prompt as a group. During the activity, the student whose turn it is does not have to be the first person to contribute/respond to the statement.

Students may also contribute to discussion of a prompt by responding to one of their peers' statements, or commenting on one of their own experiences that relates to the prompt.
When you as the facilitator feel the prompt type has been adequately covered and as you monitor time, prompt the next student to take their turn.

**Example**

Facilitator: What colour do you choose?
Student: Yellow
Facilitator: Okay, Y-E-L-L-O-W (counts out six letters as they move corners). Now, choose a number.
Student: I choose 2.
Facilitator: Okay, 1-2. Now what number do you choose?
Student: 3 – the student reads the prompt aloud.

**Extras**

- If a student chooses ‘8’ as their final number choice, they will be instructed to choose another number that has not been previously chosen.
- If the students struggle with a prompt, you may share a personal experience to initiate student discussion.
- If the students are not contributing/discussing a prompt, wait 5 seconds then ask “Can anyone else share something from their experiences?”

*Appendix J*

*Student Participant VAS Questionnaire on Reflective Practice*

382 Reflective Practice Questionnaire

Thank you for completing this questionnaire. This questionnaire measures your opinion about the level of your reflective practice skills. When rating yourself, please think about your level of reflective practice within your current clinical placement and rate based on what you are able to do independently. Rate your answer from not at all to all the time for each statement. Place the slider (by dragging or clicking on the line) to the place on the line which reflects your opinion. You will need to answer all questions to complete the survey.

Q1. I am able to integrate information from different sources to make decisions when engaging in reflective practice.

Not at all ——— All the time

Q2. I am able to apply new insights and knowledge to clinical situations.

Not at all ——— All the time

Q3. I am able to link theory to practice in order to better understand clinical situations.

Not at all ——— All the time

Q4. I am able to effectively explain my reasoning processes and thinking.

Not at all ——— All the time

Q5. I am able to identify what I need to learn to make a decision about a client/clinical situation.

Not at all ——— All the time

Q6. I am able to look at multiple points of view in clinical situations.

Not at all ——— All the time

Q7. I am able to reflect on my clinical performance in relation to my clinical practice or COMPASS ® competencies.

Not at all ——————————————— All the time

Q8. I am able to identify strengths in my clinical skills.

Not at all ——————————————— All the time

Q9. I am able to identify weaknesses in my clinical skills.

Not at all ——————————————— All the time

Q10. I am able to use constructive feedback to improve my performance in clinic.

Not at all ——————————————— All the time

Q11. I am able to reflect on clinical experiences within the session.

Not at all ——————————————— All the time

Q12. I am able to reflect on clinical experiences following the session.

Not at all ——————————————— All the time

Q13. I am able to reflect on clinical experiences to plan for what I need to do differently in future clinical sessions.

Not at all ——————————————— All the time

Q14. I am able to reflect on a session and describe what has happened.

Not at all ——————————————— All the time

Q15. I am able to reflect on my clinical practice without feeling anxious.

Not at all ——————————————— All the time

Q16. I am able to recognise that the process of reflective practice helps to guide my clinical practice.

Not at all ——————————————— All the time

Q17. I am able to view reflective practice as an effective use of my time.

Not at all ——————————————— All the time

Q18. I am able to think about my clinical abilities in a positive manner after the process of reflection.

Not at all ——————————————— All the time

Q19. I am able to recognise that participating in reflective practice group develops my ability to reflect.

Not at all ——————————————— All the time

Q20. I am able to learn by hearing about my peers' clinical experiences.

Not at all ——————————————— All the time

Q21. I am able to engage in discussion within reflective practice groups.

Not at all ——————————————— All the time

Q22. I am able to recognise that having a facilitator to lead reflective practice group is helpful to my learning.

Not at all ——————————————— All the time

Q23. I am able to recognise that using games/activities in reflective practice group is helpful to my learning.

Not at all ——————————————— All the time

Q24. I am able to think about my clinical abilities in a positive manner after the process of reflection.

Not at all ——————————————— All the time

Q25. I am able to compare my clinical situation/experience with my peers' experiences.

Not at all ——————————————— All the time

*Appendix K*

*CE Participant VAS Questionnaire on Reflective Practice*

Reflective Practice Group Facilitator Survey

Thank you for completing this questionnaire. This questionnaire measures your opinion on how your reflective practice group runs. When rating, please think about your current reflective practice group and how you feel the group is running at the time of survey completion. Rate as honestly as you can. Rate your answer from not at all to all the time for each statement. Place the slider (by dragging or clicking on the line) to the place on the line which reflects your opinion. You will need to answer all questions to complete the survey

Q1. My RP group was an effective way to develop students' reflective practice skills.

Not at all ——————————————— All the time

Q2. My RP group engaged the students.

Not at all ——————————————— All the time

Q3. My RP group elicited on topic student discussion.

Not at all ——————————————— All the time

Q4. My RP group appeared to recognize the value of reflective practice.

Not at all ——————————————— All the time

Q5. My RP group appeared to appreciate the value of reflective practice.

Not at all ——————————————— All the time

Q6. My RP group felt like a space where students could be open and honest.

Not at all ——————————————— All the time

Q7. My RP group would have achieved the same outcome without a facilitator.

Not at all ——————————————— All the time

Q8. My RP group were able to freely discuss during group time.

Not at all ——————————————————— All the time

Q9. My RP group met the course objectives as stated in the CMDS382 course outline.

Not at all ——————————————————— All the time